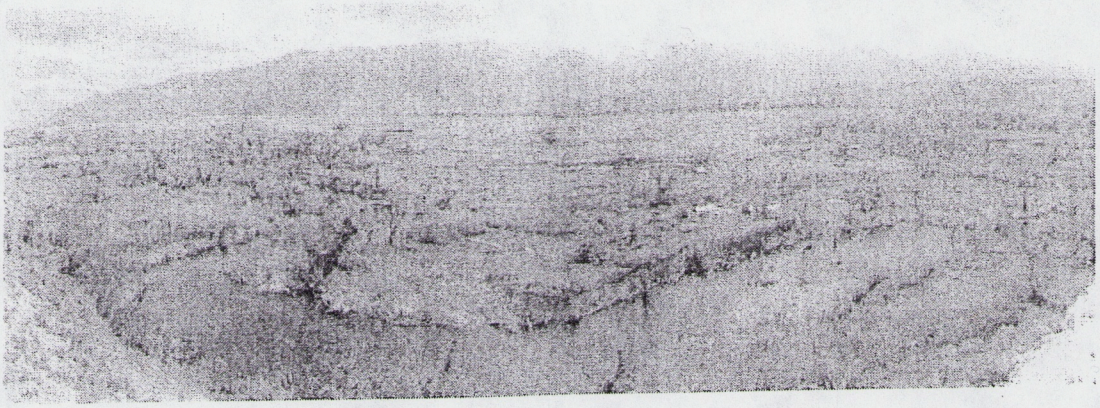
OWENS LAKE

Los Angeles Department of Water and Power
300 Mandich Street
Bishop, CA 93514
info@ladwp.com

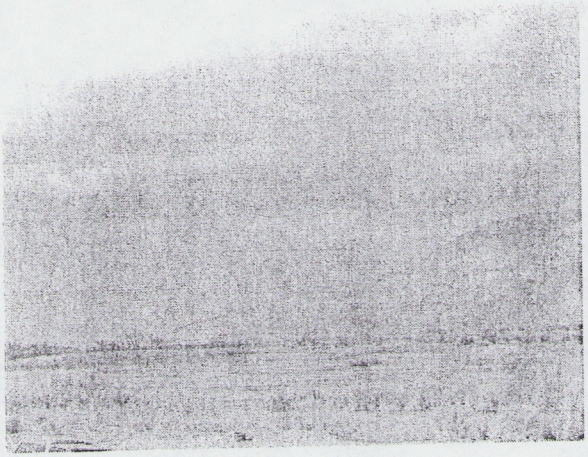
The Lower Owens River Project

Among the most significant environmental restoration efforts in the United States is the Lower Owens River Project, being implemented by the Los Angeles Department of Water and Power, and Inyo County. The Lower Owens River had been essentially dry from the Los Angeles Aqueduct Intake to the Owens Lake Delta, a distance of more than 60 miles, since the water was diverted to Los Angeles in 1913; eliminating a once thriving ecosystem.

Water first returned to portions of the Lower Owens River in the 1970's under an agreement between the LADWP and the California Department of Fish and Game. A 1986 agreement between Inyo County and the LADWP solidified the project.



In addition to providing a steady flow to 63 miles of the river, the project spreads water into basins to create hundreds of acres of wetland habitat and off-river lakes and ponds for waterfowl, shore birds and fisheries.



The main goals of the project are to create and sustain healthy and diverse habitat for native fish, waterfowl, shorebirds and other animals, as well as a warm water recreational fishery, through sound flow and land management practices which give nature the tools to produce healthy habitats.

The LADWP will release a year-round base flow of 40 cubic feet per second to sustain the restored ecosystem. In addition, LADWP will release higher "seasonal habitat flows" of 200 cubic feet per second, five times the base flows, in late spring to mimic peak snowmelt runoff flows. These higher flows will provide the stream with energy to scour pools, recharge groundwater for vegetation needs, and maintain important river channel features.

Big Pine
Twin Lakes
Goose Lake
Thibaut Ponds
Billy Lake
Independence
Hidden Lake
Owens River
Lone Pine
Owens Lake
Keeler Bridge
PUMP STATION SITE
Pipeline from Aqueduct for dust project control
N
0
1
2 FREEWAYS SCALE IN MILES

Eastern Sierra History

THE "WONDERFUL DISCOVERY"

By Dave Babb

It was back in August of 1882 when the Inyo Independent ran an article (somewhat tongue-in-cheek) titled "A Wonderful Discovery". A subscriber who happened to be a druggist in San Francisco, sent in a circular and some bottles which supposedly contained "The greatest blood purifier known to the civilized world and a positive cure for most all diseases, whether internal or external". The circular described the liquid in the bottles to be; "A production of Nature, and not a compound devised by science or quackery".

It also contained a list of all the ingredients found in the liquid - - about which the editor of the Independent noted that with all those constituents, "the great cure-all is dirt cheap at four bits per bottle, containing six ounces". Some 25,000 bottles had already been sold in the San Francisco area.

This amazing product was called "The Eradicator", and claimed to be "volcanic mineral spring water - - the discovery of which was the result of an accident".

Supposedly, the discoverer was a Mr. Blunkenquiz - - who was an old miner and prospector who had suffered from rheumatism for many years. He had tried many drugs and potions of the day, but his condition only became worse. Then one day, while prospecting, he came across a spring and, being very thirsty, he took a long drink. It tasted so good, he decided to remain in the area for a few days. To his surprise, in just four or five days the inflammation in his leg was greatly reduced and some sores on his body were being healed.

He collected a quantity of the water and took it to San Francisco. After drinking some of the water each day, he found that he was completely healed of his infirmities in less than four months. This all happened six years prior to the article and Mr. Blunkenquiz was in perfect health all that time.

Too good to be true? Well, the last paragraph of the newspaper article put it all into perspective. It said; "In all this there is a great deal of truth thus claimed for the merits of Owens Lake water - - for such the "Eradicator" is. Only that San Francisco and the world generally obtain it free of cost by the millions of gallons, without paying the California Volcanic Mineral Water Company 50 cents for a small bottle thereof".

High Noon at Owens Lake

On Oct. 30, 2012, I wrote a letter arguing that Inyo County should withdraw from Owens Lake Master Plan negotiations. On Nov. 6, another author wrote that the negotiations should be continued. He cited three reasons: 1) protection of bird habitat; 2) "significant water savings for Los Angeles;" and 3) continued dust mitigation. I find none of these reasons persuasive.

1.) Bird habitat is already de facto protected. The State Lands Commission, which owns most of the lakebed, has embraced the idea of maintaining existing habitat values and can insist on it in any future management changes. Bird habitat can be protected without a master plan.

2.) The "significant water savings for Los Angeles" is a euphemism for "reducing flows to Owens Lake and increasing flows down the Aqueduct to L.A." The Nov. 6 author views this as a potential benefit of the Master Plan. I view it as a fatal flaw: too much water already flows down the aqueduct due to DWP's violations of the Inyo-L.A. Long Term Water Agreement (LTWA). If flows to the lake are reduced, the reductions should be matched by reduced groundwater pumping and increased supplies to ranchers and mitigation projects. A fatal flaw, also, because it is in both Inyo's and DWP's interests that L.A. break its addiction to imported water. Angelenos are finally starting to recognize this and by facilitating increased aqueduct flows, the Master Plan will undermine efforts to cure the addiction.

3.) Continued dust mitigation is required by California Health and Safety Code 42316, the Clean Air Act, and the several SIPs and related agreements. Master plan negotiations are not necessary to perpetuate dust control. To the contrary, the negotiations are being used by DWP to attack dust control. In a flagrant act of bad faith, DWP justifies its lawsuit seeking the removal of Ted Schade, in part, by accusing Great Basin Unified Air Pollution Control District of not cooperating in Master Plan negotiations!

In the past, local environmental groups set a positive example for Inyo County in their successful challenges to DWP's environmental abuses. However, something has changed. Recently, local environmental groups were compared, in the *L.A. Times*, to the cowardly townspeople in the classic Western, "High Noon." This time Inyo County must set the positive example. The county's withdrawal from negotiations would help put this incarnation of Master Plan negotiations out of its misery, support Ted Shade, and advance Inyo's interests.

Daniel Pritchett
Bishop

11-13-12

Unfair burden shouldered by USPS

Before condemning the USPS for ongoing financial difficulties (Letters to the Editor, "Inefficient U.S. Postal Service being run on taxpayer loan," Nov. 8, 2012), let us remember that in 2006 our U.S. Congress – influenced by private corporate interests pursuing an opportunity to profit from privatization of the USPS – passed legislation requiring the USPS to fund its health and retirement program through 75 years into the future. Such a financial burden would destroy the solvency of any of us, but has been unfairly imposed upon the USPS – intended to create financial failure.

Do any of us, after thousands of successful pickups and deliveries, recall any failure by the USPS? However, how many of us have suffered through the failure of private airline checked-baggage handling programs through only a few experiences from one simple airport to another? And are not all of us associated with the non-deregulated, still municipally-operated Los Angeles Department of Water and Power, still enjoying rate savings far superior to those subscribing to privatized utility agencies?

Remember, government agencies are non-profit seeking entities. They

Karmic justice

"Suddenly there seems to be no end," wrote a recent "Top of the Morning" author ("Improving air quality at Owens Lake," Feb. 23, 2012). He's confused. There is nothing sudden about it, and it's only an illusion of a possible end.

Dust has been an issue in the Owens Valley since the day, more than a hundred years ago, L.A. diverted the Lower Owens River from its natural course. From that day to now, L.A. is responsible for every dust particle blown by wind in our valley.

Wind is natural. Dust is the result of poor resource management. In this day and age, we know how to control dust. You water grass. You grow windbreaks. You allow trees to grow. You don't over-pump the groundwater, and you don't divert a river running through it. And there is no need to wait for new dust control methodologies. The research is done. You can use water, gravel or vegetation to control dust, just as nature does.

Yes L.A., you are responsible for all dust in our deepest valley. You created this huge dust-bowl, through your greed for water. Had you managed our most valuable resource in a more efficient and sustainable way, instead of creating a desert, you might see some sort of end to dust control in the next 100-200 years. But that isn't the case is it?

L.A. is responsible for every particle of dust which blows in our valley, from now through eternity. There is no end to the effort required. Mother Nature is not responsible. L.A. and its water diversions are the culprit.

There are many of us who want L.A. to succeed in any and all dust-control efforts. Here are my suggestions. Get rid of excuses and take responsibility for the dust. It's called karmic justice. And get rid of those high-priced lawyers. They're just confusing the issue. And look for creative solutions.

Here's an idea. Build a greenhouse and grow salt cedar to plant around the periphery of the lake, using underground drip irrigation. Salt cedar can tolerate high levels of salt and grow large enough to be a strong windbreak.

Here's another. Those 75 acres you have so much trouble letting go of, turn some of those around Independence into a fruit and nut orchard. You've squeezed all these years for every drop of water taken from this valley, give back some of those trees who fell by the wayside. Create a park out of the borrow pit, north of town, with walking and bike trails from town to the hatchery, lined with trees.

3-3-2012

Jack Pound
Independence

Arthroscopic surgery for shoulders, elbows, hips...
Get the news. Get the story.

Owens Dry Lake

1999

A brochure designed to increase citizen awareness of recent efforts to reduce fugitive dust emissions in the Owens Valley Planning Area

Acknowledgements

This brochure could not have been produced without the assistance of individuals and organizations who have dedicated themselves to the protection of the environment and the people of Owens Valley. Their hard work has made it possible for citizens to be comforted that someone is taking action in protecting and revitalizing the Owens Valley and surrounding areas. As citizens we tend to take the protection of water rights, habitat, and ourselves for granted. Our daily lives are filled with many factors that distract us from asserting our right to breathe healthy air and drink clean water. Therefore the following organizations should be commended for their efforts to assist with this brochure.

The Great Basin Unified Air Pollution Control District's (Great Basin) efforts to protect the citizens' right to breathe clean air has been the greatest influence in alleviating the dust problems on the Owens Dry Lake. Since 1987, they have worked on achieving the most efficient methods of reducing dust emissions from Owens Lake. Great Basin has been responsible for assuring that the Federal Environmental Protection Agency's (EPA) Clean Air Act Amendments (CAAA) of 1990 are abided by throughout Alpine, Inyo, and Mono Counties. The brochure would have been much more difficult to produce if it were not for Great Basin's willingness to provide text, pictures, and figures.

The Owens Valley Indian Water Commission deserves many thanks for allowing the Big Pine Paiute Tribe to use their text resources, media resources, and desktop computer. The Water Commission Board consists of representatives from all of the tribes in Owens Valley. While the Board works to protect water rights and resources involved in environmental issues facing member tribes, the staff implements and updates these measures. The Water Commission has been instrumental in acquiring the funds necessary to acquire monitoring wells for the tribes of the Owens Valley. These wells have helped to answer questions for tribal members regarding the quality of their water.

The Big Pine Paiute Tribe of the Owens Valley and the Institute for Tribal Environmental Professionals deserve many accolades for providing a summer-long internship dedicated to writing this brochure. The research experience and knowledge I have gained from this program has instilled confidence and pride in my work as an environmental engineering student. It is imperative that programs such as this continue to exist for students and tribes throughout the nation.

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Summary

Owens Lake was once among largest natural lakes in the State of California. The Lake has never historically remained at a constant level over time due to varying runoff and climate changes. Although the level of the Lake has fluctuated for thousands of years, its area recently covered approximately 110 square miles (70,000 acres). The Lake served as a unique resource for the Paiute Tribes of Owens Valley. The arrival of settlers, the need for domestic water in the west, and periods of drought played key roles in the reduction of the water level of the lake. As a result, the Owens Dry Lake has been recognized as the worst source of particulate matter (PM_{10}) pollution in the nation. The United States Environmental Protection Agency (EPA) has ordered the State of California to achieve attainment of the particulate matter by December 31, 2006. The State has assigned the Great Basin Unified Air Pollution Control District (Great Basin) the task of demonstrating how PM_{10} will be attained by the previously mentioned deadline.

The purpose of this informational brochure is to ensure that all citizens are aware of the issues that may affect the public and environmental health. This information will help to explain the relevance of the Owens Dry Lake in easy-to-understand terms. Charts and graphs are used for reference as well. Your questions and comments are valuable to the Big Pine Paiute Tribe.

History of Owens Lake

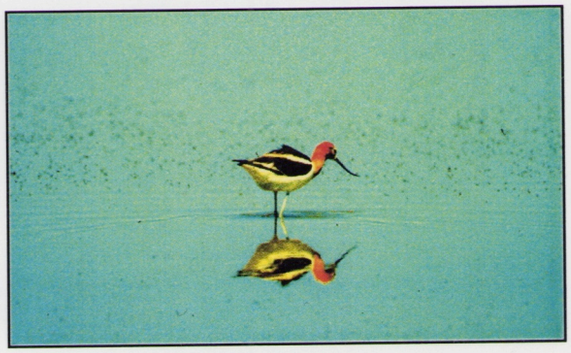
Once among the largest natural lakes in the State of California, Owens Lake has been an important natural resource for many people throughout history. The Lake has been home to the Paiute Native Americans for more than 1000 years.[1] The Paiute collected the larvae of small flies (*Ephydra hians*), known as *picawada*.[2] These flies were useful when dried and made as a bread of great delicacy.[2] The abundance of water on the Lake attracted a wealth of insects. The Lake's unique salinity allowed brine shrimp to flourish, and the plethora of insects and shrimp helped to attract at least 320 different types of birds. Birds used the lake to replenish their energy while on migration routes. It was said that the "'the Owens Lake was alive with wild fowl,' wrote Bevereidge R. Spear, an Owens Valley pioneer. 'Ducks were by the square mile, millions of them. When they rose in flight, the roar of their wings…could be heard…ten miles away…Occasionally, when shot down, a duck would burst open from fatness which was butter yellow.'"[3] In the 1870's the Lake was deep enough (30 feet maximum) to host steamships for the transport of mined goods such as silver and soda ash.[4,5]

Before the diversion of the Owens River and its tributaries, approximately 360,000 acre feet of water flowed into the Owens Lake each year.[6] One acre foot is the amount of water needed to cover an acre of land one foot deep, or about 325,851 gallons. The Paiute utilized constructed ditches before the arrival of white settlers. In 1861 large scale ditches were excavated near Lone Pine in order to sustain livestock and support agricultural crops such as alfalfa and apple trees.[3,4,6] The *Inyo Independent* was one of the first publications to officially note a decrease in the Owens Lake level. In 1894 the newspaper reported the "Lake's shoreline had receded two hundred feet during the season."[7]

At the turn of the twentieth century, the City of Los Angeles Department of Water and Power (City) began acquiring land, diversion ditches, and water rights from farmers and ranchers in Owens Valley; eventually leading to the construction of the Los Angeles Aqueduct.[3] The 1913 opening of the Aqueduct accelerated the depletion of the Owens Lake.[3] By 1924 Owens Lake was reduced to a relatively dry alkaline sink, leaving the level of the Lake at five percent of the level that it was in the late 1800's.[8] This once-productive ecosystem became inactive due to a depletion of valuable food resources for the birds that thrived on and around the Lake.

Figure 1. **A Snowy Plover incubates her eggs on Owens Lakebed**

Figure 2. **Avocets and other migratory birds feed on the existing portion of the Lake**



1. Handbook of Northern American Indians, Paiute Indians
2. The Davidson Expedition to the Owens Valley, Page 29
3. Cadillac Desert, Page 59
4. INYO, 1866-1966, Page 55
5. Geology Underfoot in Death Valley and Owens Valley, Page 187-188
6. Dust Storms in the Owens and Mono Valleys, CA, Page 14
7. The Lost Frontier, Page 96
8. Although Owens Lake reduced in height, levels rose in high precipitation years of 1911-1917

Figure 3. **Aerial Photograph-Owens Lake**

Air Quality at Owens Dry Lake

Figure 3 is an aerial photograph of the Owens Valley on a day in which winds have elevated dust off the lakebed. Problems associated with the dust are especially harmful during the spring and fall seasons. The right mixture of moisture and wind allow the particles of clay and salt to be broken from their otherwise crusty state, and become lofted into the air with relative ease.

In 1987 the United States Environmental Protection Agency (EPA) determined that dust emissions from the Owens Valley (known as the Owens Valley Planning Area [OVPA]) violated the PM_{10} (particulate matter less than ten microns) National Ambient Air Quality Standards (NAAQS). The EPA required the State of California to prepare attainment measures for the OVPA that demonstrate how emissions will be decreased. The Clean Air Act Amendments of 1990 required the EPA increase the importance of dust control in the OVPA. By reclassifying the Owens Dry Lake on a list as a "serious non-attainment area", the EPA placed the dust problem on a higher priority level.[9] Out of the five designated areas on the list, the Lake was determined to be the worst source of PM_{10} pollution in the nation.

The Great Basin Unified Air Pollution Control District (Great Basin) monitors and reports on air pollution in the counties of Alpine, Inyo, and Mono. Great Basin was directed by the State to adopt and execute a State Implementation Plan (Plan). Great Basin has been working on the Plan since 1987. Their studies have tested many methods of achieving attainment of PM_{10} standards at the Owens Lake. The Plan concentrates on three successful control measures that are required to be administered by the City.

It was originally mandated by the EPA that dust emissions would need to be reduced by December 31, 2001. However it was agreed by all parties that this deadline would not be met. Therefore Great Basin requested, and was granted a one time-five year extension for the implementation of control measures. Great Basin's Plan will reach the PM_{10} air quality standards by December 31, 2006.

The Plan was approved by the California Air Resources Board (ARB) in December of 1998. The EPA has approved the Plan as of August 18, 1999.

9. GBUAPCD Plan, Section S, Page S-1

Figure 4. **A clear day in the Owens Valley**

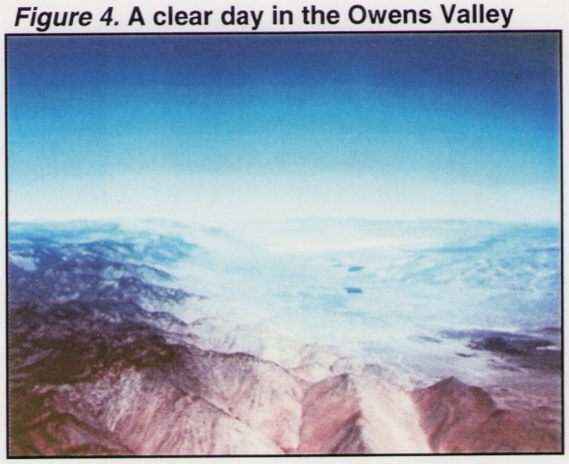


Figure 5. **A dusty day in the Owens Valley**

Questions Regarding Owens Dry Lake

Environmental Concerns Arising from Owens Lake

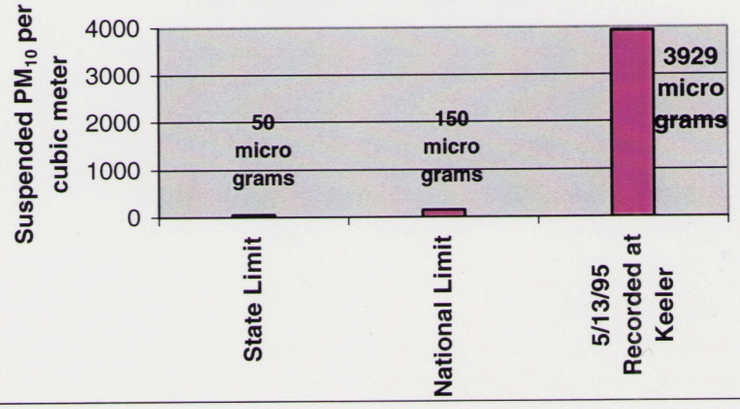
Question-How does the Owens Lake dust affect the environment?

Answer-Spring and fall winds on the Owens lakebed can gust 65 to 75 miles per hour, and can loft 130,000 to 400,000 tons (260 to 800 million pounds) of PM_{10} into the atmosphere each year.[10] Sometimes dust particles travel more than 50 miles from the lakebed. These emissions can have a harmful effect on visibility throughout the area. Visibility on the lakebed can sometimes be reduced to zero feet.[11]

Q-What is PM_{10}?

A- PM_{10} stands for Particulate Matter (dust and other emissions) less than 10 micrometers (10^{-6} m) in diameter. The size of this dust would be about 1/10th the diameter of an average strand of human hair. It is demonstrated in *figure 6* that the amount of PM_{10} at the Keeler monitoring station has been as high as 25 times the national standard.[12]

Figure 6. PM_{10} Quality At Owens Lake Compared to Legal Limit
Information Taken from GBUAPCD Plan



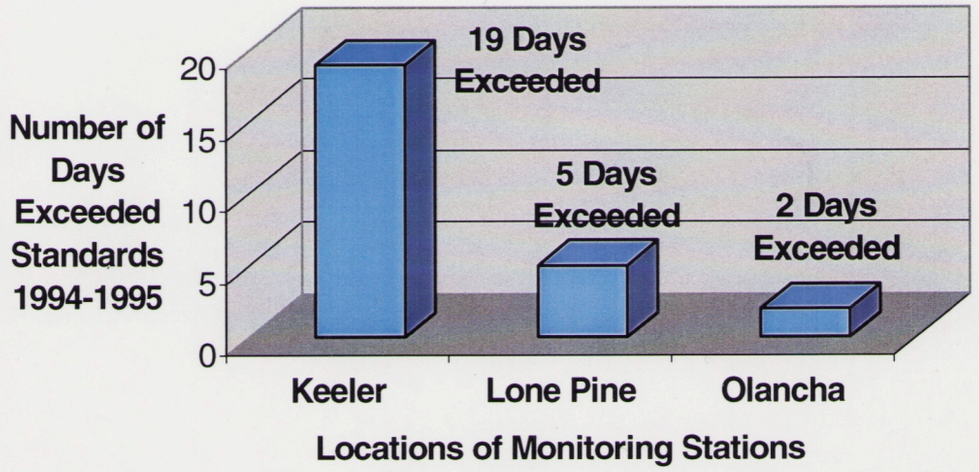
10. GBUAPCD Plan, Section 4, Page 4-14
11. GBUAPCD Plan, Section 3, Page 3-13
12. GBUAPCD Plan, Section 3, Page 3-4

When particles of such small magnitude are able to enter the lungs, a person can suffer from different types of respiratory problems. PM_{10} has been shown to be a contributor to a variety of respiratory illnesses.[13] The dust emitted from the Owens lakebed contains cadmium, arsenic, and other metals that are at levels above the natural concentrations in soils found in the Owens Valley.[14] These metals pose a significant risk for additional cancer cases in the highest dust impacted areas.[14]

Q-Why doesn't the City just fill the Owens Lake back up with water?
A-This has been one of the most commonly asked questions asked about Owens Lake. Unfortunately it has been estimated that it would take approximately 370,000 acre feet per year for 25 years to fill the Lake to its original volume.[15] This would diminish the domestic water supply for the City to approximately 45,000 to 120,000 acre feet per year.[16] Because the City acquires approximately 60% to 70% of its water from the Owens Valley, it would not be able to maintain a sufficient domestic water supply for its citizens were Owens Lake to be entirely replenished with water.

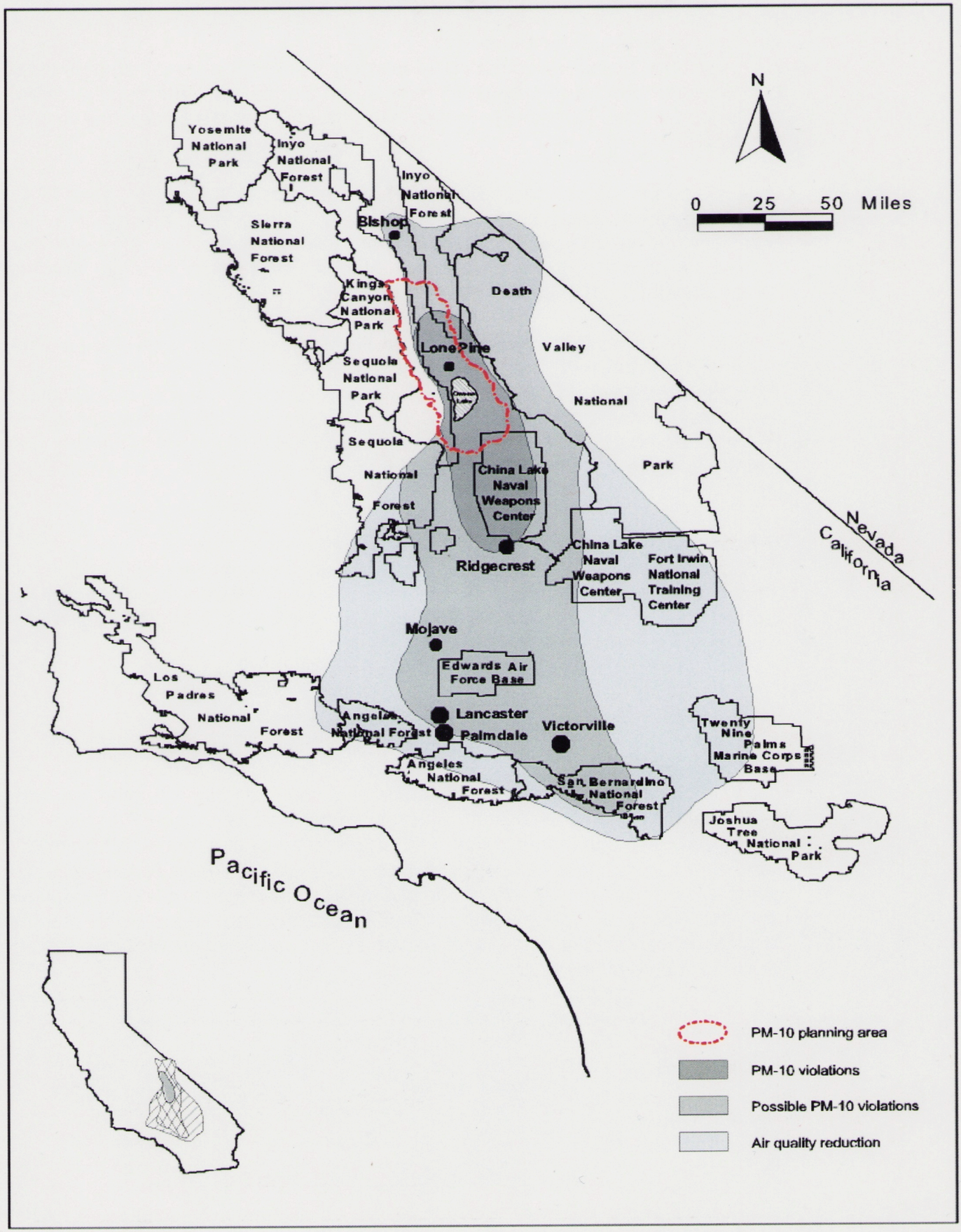
Q-How far do dust particles travel after they leave the lakebed?
A-Samples of dust from the Owens lakebed have been collected 50 miles away, at the China Lake Naval Weapons Center. The dust has even been known to travel as far as Orange County. *Figure 7* illustrates the number of above federal standard (150 micrograms/meter^3/day) exceedances at various locations around the Lake.[17] *Figure 8* on the page 5 illustrates additional locations that are affected by the particulate matter.

Figure 7. PM_{10} Exceedances at Locations Near Owens Lake. Information Taken from GBUAPCD Plan



13. USEPA Air Quality Criteria for Particulate Matter, Volume II, Page 10-1
14. GBUAPCD Plan, Section 3, Page 3-12
15. GBUAPCD EIR –Volume I, Section 7-1
16. EIR-City of Los Angeles DWP-Water From the Owens Valley., Chapter 3, Page 3-2 through 3-12, Values taken from a 60%-70% estimated range of water acquisition from Owens Valley
17. GBUAPCD Plan, Section , Page 3-8

Figure 8. **Project area affected by dust from Owens Lake**



Health related effects of PM_{10} emissions

Q-How does PM_{10} enter the body?
A-Dust enters the body through the respiratory tract. PM_{10} is small enough that it can easily be deposited onto small hairs in the lungs known as cilia. Dust particles attach to the cilia, thus preventing them from being able to clear the respiratory tract.[18]

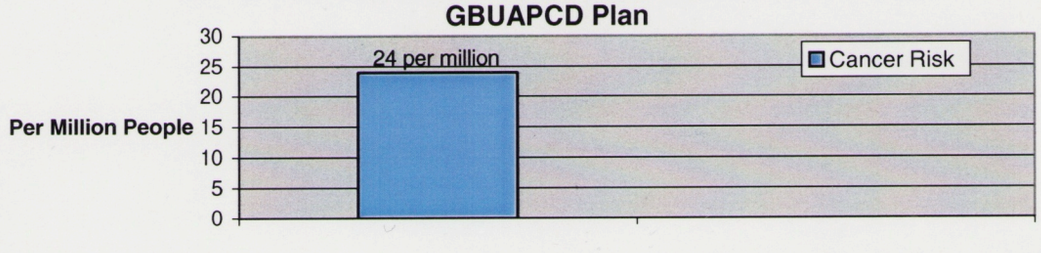
Q-Why should I be concerned about PM_{10} emissions?
A-PM_{10} emissions can lead to problems related with asthma, emphysema, and bronchitis.[19] Although it is difficult to detect the exact cause of the previously mentioned illnesses, there are steps that one can take in order to alleviate symptoms attributed to the dust emissions.

Q-How can I prevent respiratory problems associated with PM_{10} or any other air pollutant?
A-People who have a healthy diet and exercise regularly are less susceptible to respiratory ailments than those who don't. Smoking can also aggravate the severity attributed to cancer causing metals contained in the dust.[20] During a dust event, exposure can be limited by staying indoors and avoiding strenuous activity.

Q-How much of the dust can I breathe before I am affected?
A-Because everybody is subjected to different amounts of various emissions, the amount of particles inhaled by each person and their individual sensitivity will determine their quality of life. The EPA has set 150 $\mu g/m^3$ over 24-hours as the level at which sensitive individuals are affected, and 600 $\mu g/m^3$ over 24-hours as the level at which most healthy individuals are affected.[21]

Q-How does PM_{10} dust emissions affect my health?
A-It has been determined that citizens of Keeler have been exposed to dust at a rate that will increase their risk of cancer by 24 chances in one million (see *Figure 9*).[22] The mixture of metals such as arsenic and cadmium with other particles can agitate symptoms associated with respiratory illnesses. The EPA has determined that PM_{10} can increase the number and severity of asthma and bronchitis attacks. It can cause breathing difficulties in people with heart or lung disease, and can increase the risk for, or complicate existing respiratory infections. Children, the elderly, and people with extreme respiratory disease are highly reactive to high concentrations of PM_{10}, however even healthy individuals can be adversely affected by the dust.

Figure 9. **Cancer Risk from Dust Emmisions Taken from GBUAPCD Plan**



18. USEPA Air Quality Criteria for Particulate Matter, Volume II, Section 10.4. Page 10-29
19. USEPA Air Quality Criteria for Particulate Matter, Volume II, Section 10.1, Page 10-1
20. USEPA Air Quality Criteria for Particulate Matter, Volume II, Section 11.3.3. Page 11-83
21. GBUAPCD Plan, Section 3, Page 3-4
22. GBUAPCD Plan, Table 3.3

Economic Concerns regarding Owens Lake

Q-How much will the Plan cost to complete?
A-The overall cost of the project will depend on the number of control measures that are needed to eventually attain the PM_{10} standards. However it has been estimated by Great Basin that "the range of preliminary costs for construction of control measures is $91 to $250 million. The range of comparative costs for annual operation and maintenance is $26 to $30 million."[23]

Q-Who is paying the cost to reduce PM_{10} emissions?
A-California Health and Safety Code §42316 requires that the City of Los Angeles to fund control measure developments and implement reasonable measures ordered by Great Basin to attain compliance with state and federal ambient air quality standards at Owens Lake. If the City does not begin to implement Phase 1 of the Plan on or before December of 2001, there will be a penalty of at least $10,000 per day.[24]

Schedule of required action to be taken through 2006

Table 1 illustrates the projected schedule that will occur up to December 31, 2006. The implementation of PM_{10} control measures will take place in two increments. Increment 1 will be sectioned into three phases. Phase 1 will implement control measures on ten (10) square miles of lakebed by December 31, 2001. Phase 2 will implement control measures on an additional three and one-half (3.5) square miles of lakebed (for a total of 13.5 sq. mi. controlled) by December 31, 2002, unless Great Basin determines that the attainment has been met. Phase 3 will be to complete implementation of control measures on an additional three (3) square miles of lakebed (for a total of 16.5 sq. mi. controlled) by December 31, 2003, unless Great Basin determines that attainment has been met.

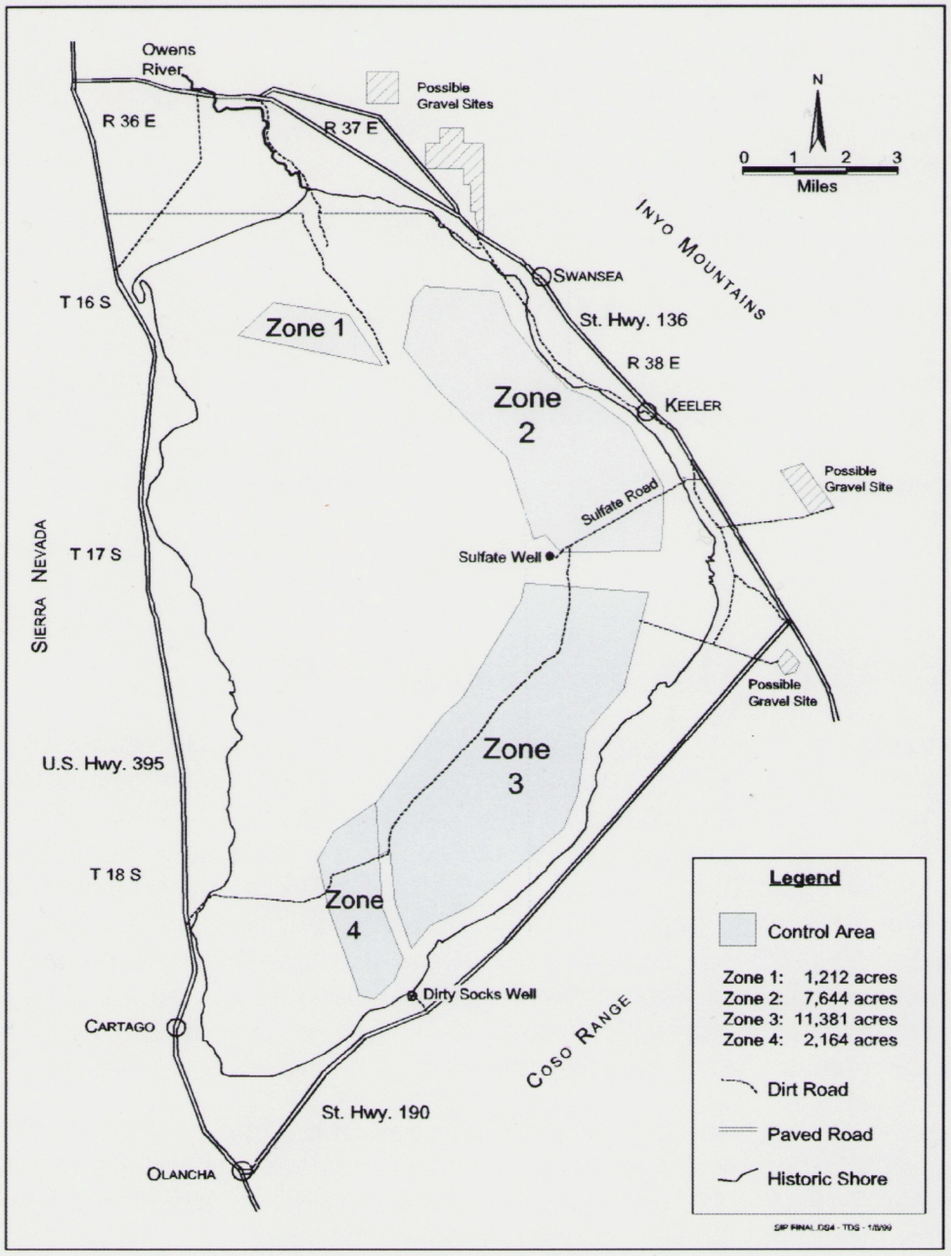
Increment 2 of the control strategy will take place between January 1, 2004 and December 31, 2006. Increment 2 requires the implementation of two (2) miles per year (phases 4, 5, and 6), unless Great Basin determines attainment has been reached or more than 2 miles per year are needed.[25]

Table 1. Mandatory Project Implementation Milestones
*Information taken from GBUAPCD Plan

Milestone	Date
Increment 1	
Phase 1 (10 sq. miles)	12/31/01
Phase 2 (additional 3.5 sq. miles)	12/31/02
Phase 3 (additional 3 sq. miles)	12/31/03
Increment 2	
Phase 4 (additional 2 sq. miles)	12/31/04
Phase 5 (additional 2 sq. miles)	12/31/05
Phase 6 (additional 2 sq. miles)	12/31/06

23. GBUAPCD Plan, Section 7, Page 7-9
24. GBUAPCD Plan, Section 7, Page 7-11
25. GBUAPCD Plan, Section 7, Page 7-4

Figure 10 **The Owens Dry Lake Control Areas**



Proposed Action for Control of PM_{10}

Since 1987 Great Basin has been testing different types of possible control measures that could be implemented to reduce fugitive dust emissions from Owens Lake. Great Basin has adopted three control measures that must be implemented by the City. These measures include managed vegetation, shallow flooding, and gravel cover. While It is not the responsibility of Great Basin to propose where to acquire water for the managed vegetation and shallow flooding control measures, Great Basin has determined that the City has access to sufficient water resources.

The OVPA is divided into four sections known as control areas (shown in *Figure 10).* Each control area was designated because it is an area which causes a large amount of PM_{10} emissions. It will be possible for the City to use more than one control measure in each control area. The City may opt to propose a different control measure than the three that have been required, however Great Basin must approve the control measure before emplacement.

Managed Vegetation

The Owens Dry Lake has always contained high salt (saline) concentrations. Salinity makes it difficult to grow any type of vegetation. In order to grow vegetation on the Lake, the soil requires precise amounts of water. If the vegetation is not watered enough, then it will obviously dehydrate and die. However if the vegetation is watered without proper drainage, the saline minerals will be attracted to the zone where vegetation roots lie. This overabundance of salt will force vegetation to expend more energy in absorbing water.[26]

26. Water Scarcity, Page 160

Figure 11. **Managed Vegetation Site with Saltgrass**

The first type of vegetation that will be introduced is Saltgrass (*Distichlis spicata*). Saltgrass is an ideal type of vegetation for the Lake because it is relatively tolerant of soils that contain high salt concentrations. Saltgrass is also able to withstand dust storms. Great Basin's research efforts have shown that saltgrass does not require a relatively large amount of water in order to survive; saltgrass requires 2.5 acre-feet of water, per acre, per year.[27] Compare this amount to alfalfa, which requires 4.5 to 6.5 or more acre feet, and one will notice that saltgrass requires a relatively small amount of water.[28,29] The managed vegetation control measure will achieve a 95% reduction in dust production. Eventually other native plants will be expected to incorporate themselves back into the playa area. These additional plants include parry saltbush (*Atriplex parryi*), sea blight (*Sesuvium verrucosum*), Nevada sedge (*Scrius nevadenis*), and yerba mansa (*Anemopsis californica*).[27]

Figure 12. **Shallow Flooding Site**

Shallow Flooding

Shallow flooding of the lakebed consists of releasing water along the upper edge of the designated control areas, thereby allowing water to flow across the control areas. This flooding process will most likely occur on the sandy zones of the lakebed; these are zones 1 and 2 as shown in *Figure 10*. "Pooled areas will produce no PM_{10} and will act as sand traps to prevent crust abrasion and dust generation."[30] *Figure 12* shows that the flood pools will be less than a few inches deep. Test plots by Great Basin show that the flooded areas controlled dust with an "average effectiveness of 99% after the surface water covered 75% of the test area."[30] The shallow flooding process may also restore some of the previously-recorded natural wildlife and vegetation .

27. GBUAPCD Plan, Section 5, Page 5-10
28. Water Scarcity, Page 189
29. US Filter , Page 6
30. GBUAPCD Plan, Section 5, Pages 5-1 through 5-3.

Figure 13. **Possible gravel mines around Owens Lake**

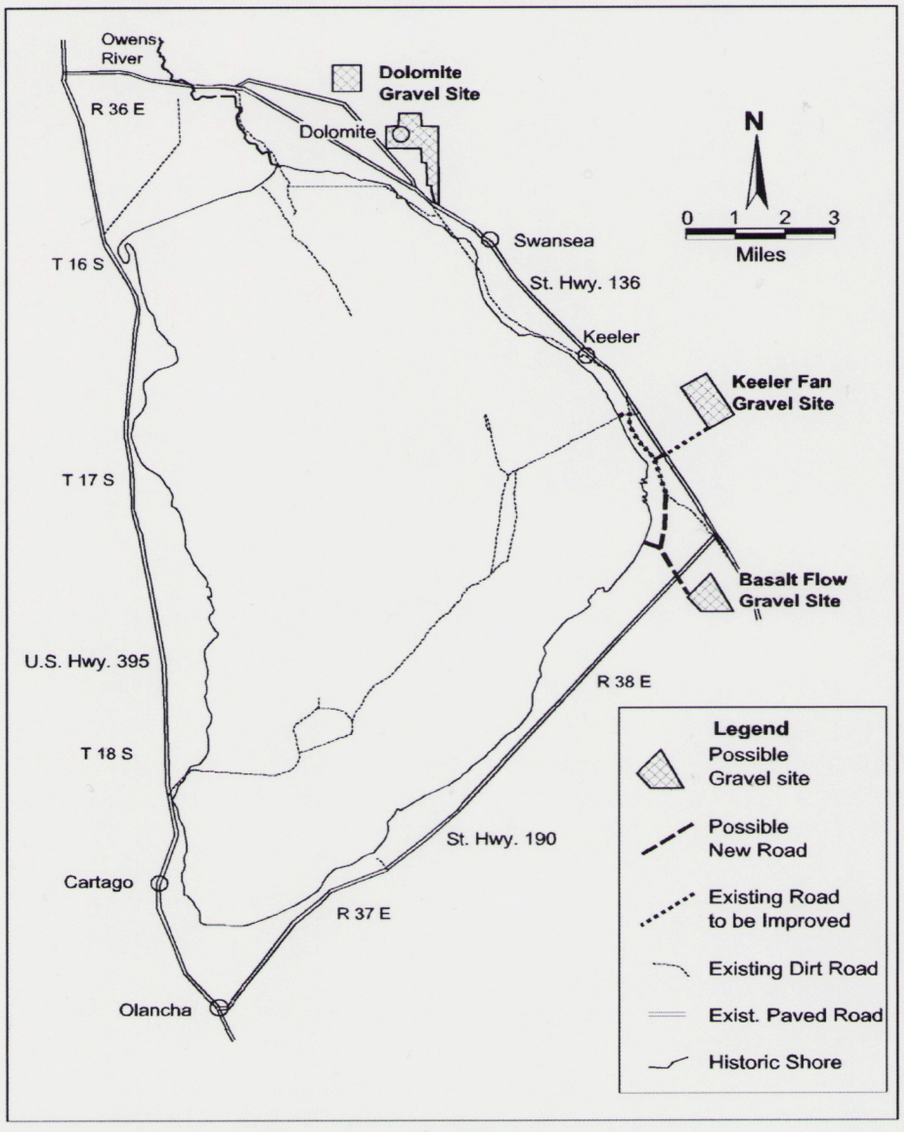


Figure 14. **Gravel is relatively the same color as the lakebed**

Gravel Cover

A four inch thick layer of coarse gravel laid on the surface of the Owens Lake playa will decrease PM_{10} emissions by preventing salty ground water from seeping up onto the playa, and the soil underneath the rock from being propelled into the air. Each piece of gravel will need to be at least 3/8 inch in diameter.[31]

The City is responsible for mining and hauling the gravel from the possible gravel sites shown in *Figure 13*. The location of potential mining sources are relatively close to the OVPA. In order to transport an estimated volume of 6.2 million cubic yards of gravel, highway gravel truck/trailers would have to make approximately 384,000 round trips, over a four-year period, operating seven (7) days a week, 365 days a year. An average of approximately 263 round trips per day would be required to deliver the gravel to the project control area.[32] Therefore Great Basin has also proposed the possible alternative of using a conveyor system to transport gravel from the mining facility to a designated, built in, fixed location.[33]

The gravel cover will achieve 100% efficiency, however it will be the last option of the three control measures. Although it would alleviate the need to monitor the site on a continuous basis, gravel cover would require an enormous amount of capital investment for the City.

31. GBUAPCD Plan, Section 5, Page 5-17
32. GBUAPCD EIR, Volume I, Page 2-52
33. GBUAPCD EIR, Volume I, Page 2-49

Action to be Taken in the Near Future

The EPA has approved the Plan as of August 18, 1999. Control measures have been tested and modeled on small plots of the control areas. It will be the City's responsibility to replicate and expand these measures on the larger portions of the control areas. As each increment of the Plan is emplaced, more testing and modeling will be performed. These tests and models will analyze the success of the three control measures. If the measures are not controlling dust as predicted, then Great Basin may require the City to administer more control measures over larger portions of the control areas. Although Great Basin will be overseeing the implementation of control measures, it is our responsibility as citizens to remain aware of the issues on the Lake that will be arising in the future.

Resources to Communicate Comments or Concerns

Big Pine Paiute Tribe of the Owens Valley
(760) 938-2003
P.O. Box 700
Big Pine , CA 93513

Bishop Paiute Tribe
(760) 873-3076
50 Tu Su Lane
Bishop, CA 93514

Fort Independence Reservation
(760)878-2126
P.O. Box 67
Independence, CA 93526

Lone Pine Paiute Shoshone Reservation
(760) 876-5414
P.O. Box 747
Lone Pine, CA 93545

Great Basin Unified Air Pollution Control District
(760) 872-8211
157 Short Street Suite #6
Bishop, CA 93514

California Indian Legal Services
(760) 873-3581
819 North Barlow Lane
Bishop, CA 93514

Owens Valley Indian Water Commission
(760) 873-3300
101 South Barlow Lane
Bishop, CA 93514

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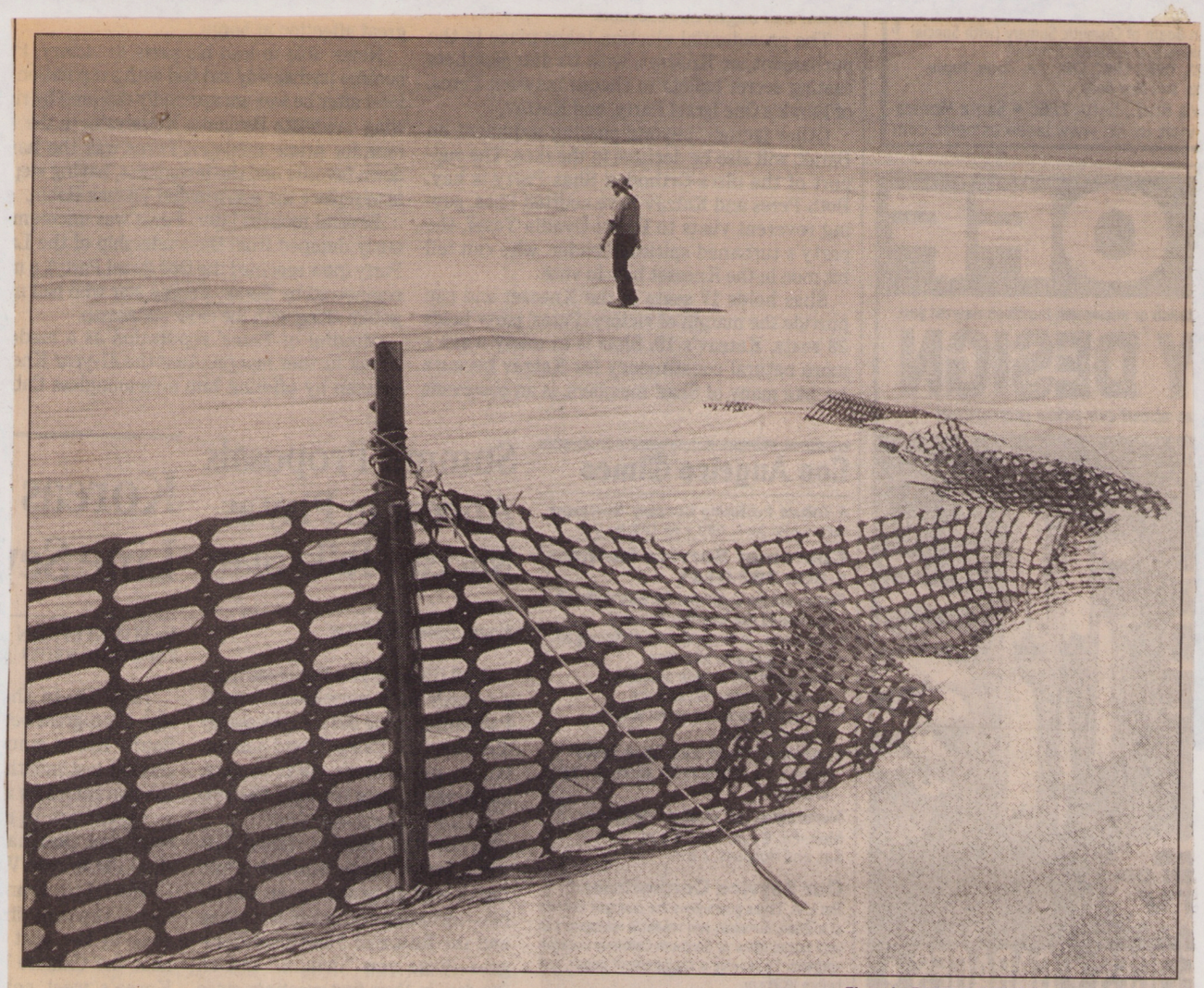


Photos by ROBERT DURELL / Los Angeles Times

Walt Sharer, a manager of the project to soak part of the dry Owens Lake bed, walks near fence that didn't stop the dust.

Owens Valley Dust to Settle, but Not Fears

■ **Pollution:** Residents say steps about to be taken by L.A. could cause a host of new problems.

By ERIC BAILEY
TIMES STAFF WRITER

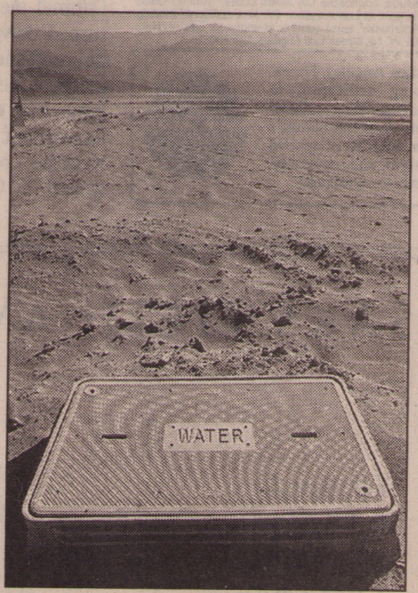
7-31-2000

KEELER, Calif.—Behind the counter at the post office, the only going concern in this parched Owens Valley town of 75 souls, Geizel Rice can see it coming.

With maddening regularity, huge, boiling clouds of dust whip off the bone-dry bed of Owens Lake. Like a frothy tidal wave, the dust sends Keeler's hardy inhabitants fleeing for cover—and routinely creates the nation's worst particle air pollution.

A cure for the dust plague appears near. But folks here in the Owens Valley—home to California's most epic water war—worry that the medicine could be as nasty as the malady.

The Los Angeles Department of Water and Power, the agency that bled dry Owens Lake and created the horrific dust storms when it began exporting water to Southern California in 1913, is about to embark on a massive, $62-million effort to fix the damage it wrought.



L.A. gear in place at Keeler, Calif.

In the coming weeks, construction is to begin on a 5-foot-wide pipeline to divert Los Angeles Aqueduct water to the lake bed, where more than 13 square miles will be turned into a mud flat to keep down the dust.

Keeler residents such as Rice are grateful that their dust woes may soon recede. But now they have a new slate of concerns, from mosquitoes to the disruption that will be caused by construction.

Mostly, though, they worry about the ground water.

In the past, water officials have proposed pumping briny, undrinkable water from beneath the lake for the project, sparing the precious drinking water from elsewhere in the valley that they'd prefer to export south.

But Keeler residents roared in dismay over the plan, which they fear would also dry up the town's only well. DWP officials agreed to tap the aqueduct while new studies are done.

In the meantime, the huge water agency is wrangling with Inyo County officials over a separate proposal they insist has nothing to do with the lake project: to boost by nearly 50% the pumping of fresh ground water elsewhere in the valley. The jump from 63,000 acre-feet a year to about 93,000 annually would mark the

Please see DUST, A20

DUST

Continued from A3

first significant increase in a decade.

That proposed boost revives fears among locals that pumping will wilt plants already weakened by generations of water exports to Los Angeles. DWP officials say not to worry, that a pumping increase is justified by research showing the valley's plant life has rebounded.

Doubters abound in the Owens Valley, a place of institutionalized distrust of the DWP rooted in the long-ago days when William Mulholland turned north for water to build a megalopolis. Some see this as yet another water grab by Los Angeles, a move meant to help offset the huge quantities that DWP expects to use on the lake.

"Just look at the record," said Rice, a Costa Rica native grown fond of California's isolated High Desert. "When they bought the water rights a century ago, they didn't tell people they were going to dry out Owens Valley."

As for Keeler, "if our well goes, we go," Rice said. "Keeler would disappear."

Worries extend up the valley. Some skeptics suggest that the effects of increased ground-water pumping will ripple far and wide, killing off native plants and trees.

"I'm worried about this whole valley becoming a dust bowl," said Benett Kessler, a radio station owner long at odds with the DWP. "L.A. is bullying their way around, taking what they want. In the meantime, our trees and plants continue to die."

A 35% loss in vegetation before the 1990s has been documented by the U.S. Geological Survey. The agency has advised a limit on ground-water pumping of 75,000 acre-feet annually from all sources throughout the valley.

Wesley Danskin, a Geological Survey research hydrologist who has studied Owens Valley, suspects the region is still recovering from the long drought that ended in the mid-1990s. A pumping hike will inevitably shrink the ground water available to plants.

"There's no free lunch," he said. "The whole valley is interconnected."

Feeling Like a Conquered People

Ever since Los Angeles began secretively buying up water rights in Owens Valley shortly after the turn of the century, many residents in this narrow and picturesque valley have felt like a conquered people.

Los Angeles, intent on keeping a firm grip on water use, owns most of the valley floor. Farmland in the valley, once an agricultural mecca, dwindled from 75,000 acres in the 1920s to 12,000 today. Nearly every land use decision is controlled by distant landlords in Los Angeles, from siting a cemetery to expanding business at Bishop Airport.

"The city of Los Angeles owns this place," said Greg James, Inyo County's water director. "There's little in the way of economic or public activity that doesn't have to go through the city of Los Angeles for approval."

Of late, historic battles that fueled the feud—the stealthy purchase of property, rivers bled dry, decades of court fights over environmental damage—have given way to an era of uneasy detente.

"Portraying us as evil or trying to do damage isn't accurate," said Chris Plakos, a DWP spokesman in Owens Valley. "It may have been true years ago, but not anymore."

For many years, Los Angeles exported about 500,000 acre-feet of water annually from the valley, meeting nearly all the city's needs. Most of the water came from Sierra rivers cascading into the valley. But after a second aqueduct was completed in 1970, the city cranked up its pumps and began siphoning Owens Valley ground water in earnest. During a few drought years that followed, half the city's water came from beneath Owens Valley.

Inyo County sued in 1972. After two decades of warring in court, these bitter foes reached an accord. In essence, they agreed to take the needs of plant life in Owens Valley into consideration. Steep reductions in ground-water pumping followed the 1991 truce.

But now the DWP wants more.

"Our people believe we can increase pumping without causing damage to the environment," Plakos said. "We have a mission, and that's to provide reliable, low-cost water to L.A. and do it responsibly. It's a balancing act."

To control dust at Owens Lake, DWP experts at first believed they could tap salty water lurking beneath the 110-square-mile dry bed. Tests, however, found that pumping could lower fresh ground-water levels for several miles around, threatening surrounding wells. So, more studies are planned.

In the meantime, DWP will pipe in good drinking water from the Los Angeles Aqueduct to control the dust. To offset the loss to customers in Los Angeles, water purchases will be made from Northern California and the Colorado River. DWP officials say this will cost an additional $13 million a year.

Controlling the dust will be no small feat—and largely an evolving art. Past efforts have been conspicuous failures. Scientists tried setting up barricades to catch sand, and planting salt cedar trees and sage. Nothing worked very well. So, water officials will use a technique dubbed "shallow flooding."

A test plot already is in place over a half-square-mile swath of lake bed. Water spread by buried pipes and nozzles has created a vast mud slick. A dank, swampy smell fills the air.

"It's not like you're going to see a Jet Ski concessionaire out here," quipped Walt Sharer, field operations manager for the project.

Elsewhere, ankle-high salt grass sprouts from the lake bed. Officials hope the grass will prove to be a good dust solution and use far less water.

"We make no bones about it: Success for us is determined by how little water we can use to control the dust," said Richard Harasick, DWP's assistant director of water resources.

The dust storms are legendary.

Winds whipping over the Sierra or out of Nevada lift powdery particles high in the skies, generating pollution 50 times as bad as the worst Los Angeles smog day.

The tiny particles—laced with toxic heavy metals—lodge deep in the lungs, creating problems for anyone with asthma or a heart condition.

"If the wind comes off Mt. Whitney, we eat it," said Alice Robertson, a mother of two young girls who has lived in Keeler for eight years.

"We can't see across the street," she said. "Afterward, I just go out and hose everything off."

Back in its mining days, Keeler thrived with 7,000 residents. Today, those who remain are mostly elderly. Many live in sunbaked mobile homes or tiny houses once occupied by miners.

Along with a few newcomers, they prize the isolation, the crime-free peace far from urban woes.

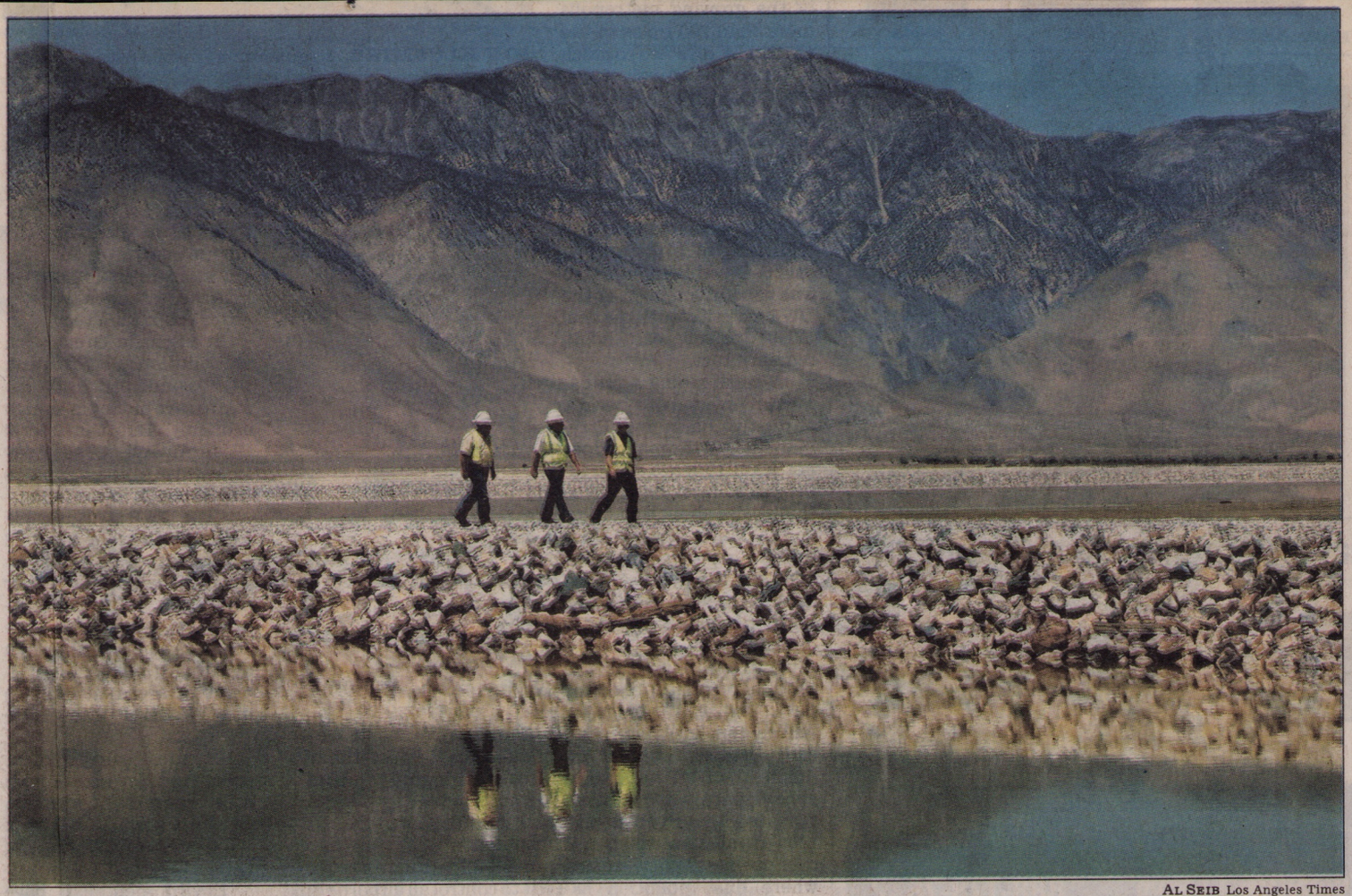
When Los Angeles comes calling, doors are bolted.

Robertson said she's already seen an increase in mosquitoes and other bugs since the swampy test plot was created a few years ago.

She also worries about her children playing on a street crowded with big trucks.

Though the construction firm promises to enact strict mosquito abatement measures and route work trucks away from Keeler, locals are dubious.

"If L.A. can fix the dust, great," Robertson said. "But if they're going to cause more problems for us, go away."



AL SEIB Los Angeles Times

OFFICIALS FROM the Los Angeles Department of Water and Power walk along a roadway built in the Owens Lake bed.

WATER WAR RESURGES

6-10-2012 L.A. TIMES

The L.A. DWP, which agreed to fight dust pollution from part of the Owens Lake bed, wants to rework the deal and is balking at taking on more territory

BY LOUIS SAHAGUN

LONE PINE, Calif. — Los Angeles and the Owens Valley are at war over water again, with the city trying to rework a historic agreement aimed at stopping massive dust storms that have besieged the eastern Sierra Nevada since L.A. opened an aqueduct 99 years ago that drained Owens Lake.

The L.A. Department of Water and Power has spent $1.2 billion in accordance with a 1997 agreement to combat the powder-fine dust from a 40-square-mile area of the dry Owens Lake bed. By introducing vegetation, gravel and flooding, the DWP has reduced particle air pollution by 90%.

The efforts have brought a measure of peace in the rural valley where people have long had bitter feelings toward Los Angeles, although a noxious reminder of how much work remains to be done rolled over this tourist town on the afternoon of May 25. Fearsome gusts of desert wind kicked up swirling clouds thousands of feet high and so thick that drivers switched on their headlights and pedestrians scurried about with squinting eyes.

MARK BOSTER Los Angeles Times

A DUST STORM creates poor visibility along California 136 near the dry Owens Lake bed last month. The lake was drained by the Los Angeles Aqueduct, which opened a century ago.

Despite the DWP's efforts, the air quality still doesn't meet federal pollution standards. So the Great Basin Unified Air Pollution Control District has ordered the DWP to expand its reach to an additional 2.9 square miles of lake bed, including areas so remote and geologically challenging that it could cost the utility as much as $400 million to bring them into compliance with federal health standards.

The DWP says the demand is unreasonable. "Just as we're nearing completion of our settlement agreement goal, Great Basin has pushed the goal post further away," DWP General Manager Ron Nichols said.

[See **Owens Lake**, A34]

Dispute centers on dust pollution

[**Owens Lake,** from A33]

Water wars have raged over Owens Valley since the early 1900s, when the city had agents pose as farmers and ranchers to buy land and water rights in the valley, then began building the aqueduct to slake the thirst of the growing metropolis more than 200 miles to the south. L.A. diverted so much water via the aqueduct system that it was nearly impossible for local farmers and ranchers to make a living — a scandal dramatized in the classic 1974 film "Chinatown."

The current standoff is "a rekindling of 'Chinatown,' " said S. David Freeman, who was general manager of the DWP when it struck the deal in 1997 and believes it should remain intact.

"We are seeing a fundamental reversal of a decade of relative harmony," Freeman said. "If the mayor does not want to leave office labeled a polluter, he ought to think twice about that."

L.A. Mayor Antonio Villaraigosa, who six years ago declared a new era of collaboration with the Owens Valley, declined to comment on the dispute.

The DWP claims that the 1997 agreement contains flaws that set the stage for unforeseen problems and sent costs soaring. For example, the DWP has had to spread more water than anticipated — yearly costs have grown to about $45 million — over portions of the lake bed where dust pollution exceeds federal standards.

The utility also argues that geological reports and newly discovered archaeological sites indicate that the lake was smaller in 1913 — when the aqueduct began taking water south — than outlined in the 1997 agreement. The DWP is responsible for dust arising only from the portions of the lake bed exposed since 1913. The utility says the State Lands Commission should be responsible for rest of the area, which amounts to about 10 square miles.

MARK BOSTER, Los Angeles Times

JON KLUSMIRE, a museum administrator, takes a walk near the Owens Lake bed. The DWP floods part of the lake bed regularly to control dust.

Los Angeles Times

In addition, the DWP contends that the agreement unreasonably requires it to control all airborne dust over the lake bed, even though some of the particles might be blown in from nearby sand dunes and other sources.

"We have no intention of walking away from our responsibility for the dust at the dry Owens Lake bed," Nichols said. "But the reality is that we don't create all the dust out there, never did."

The utility has filed an appeal of the air pollution control district's order with the California Air Resources Board, which will hear the case Friday. The DWP says that if it prevails, the amount of water used for dust control could be cut in half, saving the average ratepayer about $20 a year.

Ted Schade, Great Basin air pollution control officer, said he understands the desire to save money in a tough economy. But the federal Clean Air Act does not say that "close to completion" is good enough, he said.

"The DWP is responsible for controlling the lake bed that is exposed today because of their ongoing water diversions," he said. In addition, state-approved procedures require Great Basin to identify and order treatment of areas that fail to meet federal particulate standards.

Schade conceded that some dust does come from other sources, but he said "they are a small fraction of the dust that comes off the Owens Lake bed."

Environmentalists have a stake in the outcome. A master plan for the lake bed calls for environmentally sensitive flooding strategies, but the plan is on hold until the current dispute is resolved, DWP officials said. Thousands of migrating waterfowl and shorebirds roost on portions of the flooded lake bed.

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VOL. 142, ISSUE 23 THURSDAY FEBRUARY 23, 2012

DWP, Great Basin at odds over Owens Lake dust work

Entities disagree whether city responsible for more mitigation efforts at dry lakebed in South Inyo

By Mike Gervais
Register Staff

2-23-2012

The Los Angeles Department of Water and Power is saying it has fulfilled its legal obligation to mitigate impacts of dust blowing off Owens Lake.

In a presentation to Great Basin last week, the LADWP said that it is not solely responsible for dust blowing off the lake and that dust was an issue in the Owens Valley long before the Southern California utility began exporting water from the area.

In short, the LADWP said it believes it has done all it is required to on the lake.

Great Basin Air Pollution Control District Director Ted Schade said the LADWP's position is "nonsense."

Schade explained that in the 1990s, Great Basin used the most sophisticated technology available to determine what the level of Owens Lake would be if the LADWP had not began exporting water from the Owens Valley in the early 1900s.

LADWP Director of Water Operations Marty Adams said the Owens Valley "is a windy, dusty area, and to believe that the LADWP is the cause isn't consistent with history."

In 2008, Great Basin and the LADWP agreed on the current plan for dust mitigation measures on the lake.

That plan calls for Great Basin to conduct regular "Supplemental Control Determinations" to see if there is dust blowing off the lake and, if dust is located, order the LADWP to conduct mitigation measures on the lake.

Currently, the LADWP is working on more than 40 square miles of dust mitigation measures on the lake. This year's Supplemental Control Determination calls for another 2.9 square miles of mitigation.

"In April 2011, Great Basin notified the LADWP that it would issue a new order to once again expand the dust control area and require the construction of additional dust mitigation measures," said LADWP Head of Water Systems and Operations Manager James McDaniel. "Instead of agreeing to the issuance of a new order, we expressed a number of concerns to Great Basin and proposed that the additional areas now under construction be measured before agreeing to another yet expansion."

The LADWP appealed Great Basin's latest determination to the State Air Resources Board.

"We believe there is a fundamental misunderstanding of Los Angeles' responsibility that needs to be reconciled," the LADWP told Great Basin in a PowerPoint presentation last week. "There are statewide impacts of diverting massive amounts of water onto the lake. There is a disconnect between expectation and Los Angeles' actual responsibilities."

Schade said the 2008 agreement calls for the LADWP to conduct dust control mitigation found necessary through the Supplemental Control Determination on all areas of the "historic lake," basically the area of the lakbed located below an elevation of 3,600 feet.

The LADWP claims that the lake historically fluctuated in depth, and the 3,600-foot baseline is not in fact its area of responsibility.

McDaniel said that the LADWP is "concerned that we are being required to control dust on areas that are higher lake elevations than pre-Los Angeles Aqueduct diversion levels and thus caused by nature or others."

McDaniel said that, since beginning dust control measures, the department has reduced 96 percent of the dust blowing off the lake.

The department cited reports of dust in the Owens Valley dating back to the 1830s, long before the LADWP began operations in the area.

Schade said, regardless of whether dust was an issue in Inyo County before the department started operations, "they agreed to a procedure to fix more than they've done when they agreed to the current plan in 2008, and there is no mechanism for them to change the game, it's the law."

Schade went on to say that he believes the LADWP doesn't like the way the game is going, and wants to change the rules. "They just want out and they don't even care what happens to the air breathers in Inyo County," he said.

Schade said that even if the State Air Resources Board accepts the department's appeal, under the 2008 agreement, Great Basin would be obligated to continue its regular Supplemental Control Determinations and identify areas on the lake for the LADWP to work on to reduce dust.

"They're done only when the historic lakebed isn't a source of dust," he said.

In an effort to resolve its concerns about the lake, the LADWP and Great Basin entered into unsuccessful mitigation. In November of 2011, the LADWP notified Great Basin that it would appeal its decision on the latest Supplemental Control Determination.

The LADWP has filed a lawsuit with the state, claiming that it has met its obligations on the lake.

"We cannot continue to agree to a further expansion of the dust control area that isn't warranted," McDaniel said. "The manner in which the air quality compliance rules are presently applied by Great Basin has the potential to forever saddle us with additional dust control requirements beyond what are attributed to the city's water exports, and beyond the 'reasonable measures' Los Angeles is required by law to undertake."

If the courts determine that the department is correct in its belief, the LADWP would likely continue its current efforts to mitigate dust impacts on the 40 square miles of the lake it is currently working on, but no new mitigation areas will be added.

Adams said the department is looking for closure, hoping to see a light at the end of the tunnel. "It's not our intention to walk away from what we've done, we just want some recognition for what we've done," he said.

Improving air quality at Owens Lake

By James B. McDaniels

Over the past 11 years, the Los Angeles Department of Water and Power (LADWP) has undertaken a massive project to improve air quality and control dust blowing off of Owens Lake. During this time, dust control measures have been installed on over 40 square miles of the lakebed, an area the size of the City of San Francisco. This is the largest dust control project in the history of North America. And, recently we began designing and constructing additional measures that will bring the area under control up to 45 square miles.

We are proud that these efforts are paying off in greatly improved air quality for the Owens Valley. According to the Great Basin Unified Air Pollution Control District's (Great Basin) own estimates, dust blowing off the lakebed will have been reduced by 96 percent when the current mitigation measures under construction are finished – up from the nearly 90 percent current reduction in dust from the 40 square miles already completed.

As part of this unprecedented undertaking, the LADWP has hired more than 60 new employees who work exclusively on Owens Lake at a payroll of more than $5 million per year, most of which goes back into the Owens Valley economy. We also built a huge permanent heavy equipment garage, maintenance shop, operational control center and other facilities east of the community of Keeler on the lake shore.

In April 2011, Great Basin notified the LADWP that it would issue a new order to once again expand the dust control area and require the construction of additional dust mitigation measures. Instead of agreeing to the issuance of a new order, we expressed a number of concerns to Great Basin and proposed that the additional areas now under construction be measured before agreeing to yet another expansion.

We are concerned that we are being required to control dust on areas that are at higher lake elevations than pre-Los Angeles Aqueduct diversion levels and thus caused by nature or others. We are concerned that as we near the 96 percent control level and have done all that we have been asked, believing that we are near the end, suddenly there seems to be no end.

Simply put, LADWP believes we are now being required to mitigate against the effects of nature or others for which we have no responsibility.

We are also concerned that we continue to be limited to

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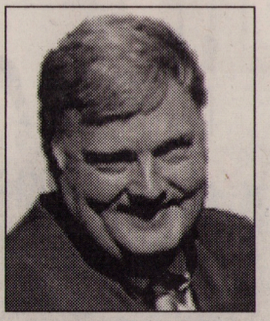


2-23-2012

the same three methods of dust control that were developed by Great Basin more than 10 years ago, and the process to get new, less water-intensive control methods approved has proved unnecessarily difficult, if not impossible. Great Basin has a responsibility to develop new dust control methodologies, but has not done so.

We are concerned that the California State Lands Commission, which claims ownership of the entire lakebed, has no obligation to allow us to comply with orders by Great Basin and allow us flexibility in the use of control methods. This puts LADWP in the impossible position of being required by one agency to undertake mitigation measures on State Lands for which the State Lands Commission feels no obligation to authorize us timely access to undertake.

We have also expressed concerns regarding the methodology and accuracy of dust measurements.

In an attempt to resolve these issues, we entered into mediation with Great Basin. Unfortunately, mediation was not successful. On Nov. 4, 2011 we informed Great Basin that we would appeal the order to the California Air Resources Control Board and in early December 2011, we filed our appeal. We want the public to understand why we have taken this step.

We cannot continue to agree to a further expansion of the dust control area that isn't warranted. The manner in which the air quality compliance rules are presently applied by Great Basin has the potential to forever saddle us with additional dust control requirements beyond what are attributable to the City's water exports, and beyond the "reasonable measures" Los Angeles is required by law to undertake.

The cost for dust control has been high, impacting our Los Angeles customers, as well as our Owens Valley employees, work and community efforts. We have spent more than $1 billion on what has become the largest environmental undertaking of its kind in the world. Annual dust control operations and maintenance, and the purchase of replacement water, now cost about one month's worth of all LADWP customers' annual water bills. Up to 95,000 acre-feet of water – enough to serve a half million people – are released onto the lakebed each year to control dust. At the same time, water use in Los Angeles has been reduced by 19 percent over the past four years to just 123 gallons of water per person per day – the lowest per capita consumption of any city with a population over one million people in the nation.

Our commitment to the Owens Valley environment has been demonstrated time and again by our implementation of Owens Lake dust control measures and dozens of enhancement projects in the Valley. We are not suggesting that we back away from these obligations. Rather, it's important to recognize that our dust mitigation project has significantly improved the air quality to a reliable level that has likely not been seen in generations. We still hope to reach an agreement that will allow us the flexibility we need to meet our actual obligations at Owens Lake and in the Owens Valley, while balancing the water needs of Los Angeles and the significant costs to our customers.

At this point, legal appeal of the Great Basin's new requirements is the only way to seek a proper resolution, since all other efforts short of that have failed.

(Today's Top of the Morning is written by James B. McDaniel, the senior assistant general manager for the Water System of the Los Angeles Department of Water and Power.)

3-1-2012

Why won't LADWP finish cleaning up our air?

By Theadore D. Schade

Why is the Los Angeles Department of Water and Power (LADWP) not living up to the promises it made to the Owens Valley? In a recent editorial (*The Inyo Register*, Feb. 23, 2012), LADWP sings its own praises, yet makes excuses as to why it should not have to finish the job of controlling the dust caused by its water diversions from Owens Lake – the largest single source of particulate matter (PM) air pollution in the country.

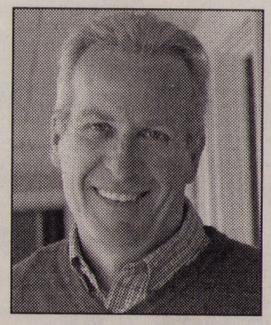
LADWP has controlled the air pollution from 40 square miles of existing lake bed because the law requires it to. LADWP contractors built thousands of acres of infrastructure and LADWP field staff works hard to operate and maintain the controls. Their efforts have led to about a 90 percent reduction in air pollution levels. For this, all Owens Valley residents should be grateful. I am.

The Owens Lake effort is the largest dust control project in the country – it needs to be. Before LADWP started deploying controls in 2000, dust levels were 100 times the federal standard. Even with the current 90 percent reduction, PM levels are still 10 times higher than the standard. And when LADWP finishes the five square miles it is currently working on, dust levels will still be four times higher than the standard. To meet the federal clean air standard, dust levels have to be reduced by 99 percent and some additional areas of controls are required. Until that happens, Owens Valley air-breathers will be subjected to dust levels that are two to four times as high as the highest levels measured in Los Angeles. The work is nearly complete. Why is LADWP now unwilling to finish the job?

The LADWP editorial claims, "suddenly there seems to be no end." This is not true. There is no "suddenly" and there is an end. In 1988, the Great Basin Unified Air Pollution Control District (Great Basin) estimated that controls would be required on about 46.5 square miles of the dried lake bed. And in 1998, LADWP entered into an agreement with Great Basin and committed to reduce lake bed emissions so that the Owens Valley "will attain and maintain federal air quality standards." They have known for 24 years how much of the lake bed would require controls and they have known for 14 years that the "the end" comes when they meet the clean air standards.

LADWP claims that "Great Basin has a responsibility to develop new dust control

TOP OF THE MORNING



methodologies, but has not done so." In the 1990s, Great Basin did develop the three currently-approved methods to control dust (water, vegetation and gravel). However, air quality regulators have no obligation to develop air pollution controls for air polluters. If the LADWP is unsatisfied with the current approved controls, they have a responsibility to their ratepayers to develop new, effective controls. It is Great Basin's responsibility to review and approve successful controls.

Yet another of LADWP's concerns regards "the methodology and accuracy of dust measurements." The methods used by Great Basin to monitor PM emissions are the most sophisticated methods ever developed for such monitoring. LADWP does not mention that these methods were painstakingly developed with their input or that they signed an agreement that the methods are valid and reasonable. These agreed-upon methods now show that controls are required on an additional 2.9 square miles of dried lake bed. Why is LADWP going back on its promise to rely on these methods?

LADWP states that, at over $1 billion, the cost for dust control has been high. But, the amount of air pollution caused by their water diversions is enormous. Objectively looking at the cost of controls versus the amount of pollution controlled, the cost is reasonable. Over a 25-year period, the cost of controlling Owens Lake air pollution is estimated to be about $1,000 per ton. The South Coast AQMD (where Los Angeles is located) has set a feasible cost effectiveness limit of $5,300 per ton for PM control in its area. If Owens Lake were located in the San Fernando Valley, instead of the Owens Valley, LADWP would be expected to spend up to $5 billion to control the problem.

LADWP states, "We are not suggesting that we back away from these obligations." But, this is exactly what they have done. They are ignoring previous hard-fought agreements and they are breaking promises. The current LADWP leadership has drawn a line in the dust and is refusing to meet its obligations.

At a recent Great Basin Board meeting, Board Chair and Mono Supervisor Larry Johnston asked LADWP General Manager Ron Nichols why they spend money on legal fees when it could be spent on dust mitigation. Mr. Nichols said, "The cost of legal fees pale in comparison to the cost of dust controls."

And that is the problem, a historic problem LADWP has with its credibility in keeping promises. LADWP's actions impact the residents of our communities – our parents and children, healthy and sick, the people the District is charged by law to protect. Its actions also impact our environment – our air is still 10 times more polluted than allowed by law. Rather than spend their resources to complete the job of controlling their pollution and protecting the public and the environment, it seems that LADWP's leaders would rather pay attorneys to fight their battles.

Great Basin is convinced there is a middle ground where most of both sides' needs can be met. We encourage City of Los Angeles leaders to engage in this conversation. The air pollution control at Owens Lake should be something we are all proud of, not something attorneys fight over.

(Today's Top of the Morning is written by Ted Schade. He is the Air Pollution Control Officer for the Great Basin Unified Air Pollution Control District and has worked on solving the air pollution problem at Owens Lake for the last 22 years.)

Top of the Morning to you!

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The Inyo Register

No choice but to file suit against Great Basin

By Ron Nichols
10-20-2012

The Los Angeles Department of Water and Power has devoted enormous financial and water resources to live up to its fundamental obligations to control dust at Owens Lake related to LADWP water diversions. Our work has resulted in substantial and enduring environmental progress – leading to an enormous reduction in dust coming from Owens Lake and improved habitat in the Lower Owens River.

In recent months, we have held high level discussions with governmental leaders to work with LADWP to help build consensus around new, innovative approaches that will protect the environment, conserve scarce water, and be more cost effective for LADWP water customers who now pay two months a year of their water bills solely for dust mitigation.

Unfortunately, one essential party – the Great Basin Unified Air Pollution Control District – refused to participate in this process in any useful way and instead decided to both sue the City of Los Angeles over the Department's appeal of demands to pay for outrageous legal fees of Great Basin's outside counsel while at the same time continuing to impose unjustified demands on the Department for new areas of dust control.

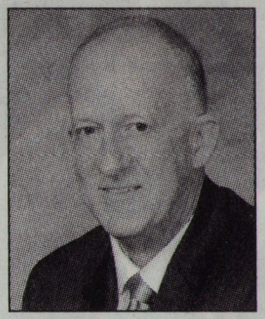
As a result, the LADWP has been left with absolutely no choice but to file a lawsuit in federal court.

The lawsuit does not change the fact that LADWP and its customers are absolutely committed to fulfilling our obligations to control dust at Owens Lake caused by the Department's water diversions.

Over the last 11 years, LADWP's customers have funded the largest dust control project in American history. This effort has led to an historic reduction in air pollution in the Owens Valley – covering by water, vegetation or gravel over 42 square miles – and another three miles committed to while awaiting authorization to avoid damage to sensitive Native American artifacts in the area. Taken together, this area of dust control is exactly what was requested and agreed to by Great Basin and LADWP.

This effort has required – and will continue to require – an enormous commitment of scarce water resources. The amount of drinking water being used to control dust on Owens Lake each day would overflow the Rose Bowl in Pasadena every day of the year.

TOP OF THE MORNING



Put another way: Now, and for every year going forward until other dust control methods are approved, the amount of water annually being devoted by LADWP to Owens Lake would be sufficient to supply the entire City of San Francisco for a year – over 30 billion gallons of water each year.

As a result, the Department now devotes 50 percent of its L.A. Aqueduct water to dust and other environmental mitigation projects in the Owens Valley and Eastern Sierra, resulting in the need to purchase an equivalent amount of scarce water from the Metropolitan Water District of Southern California (MWD) – putting increased pressure on water supplies from the Bay-Delta.

So, while LADWP customers have conserved water to the lowest point in 40 years and use less water per person than any major city in the U.S., Great Basin continues to mandate wasting billions of gallons of drinking water to control dust at Owens Lake.

To date, the project cost exceeds $1.2 billion. And recent orders by Great Basin for new areas to mitigate dust that was not caused by LADWP will require another $400 million.

In short, even with all of the water and financial resources that have been used and all of the environmental successes that have been achieved, there appears to be no end in sight to the work that LADWP and its ratepayers may be asked to do at Owens Lake. Great Basin keeps moving the goal posts, creating an open-ended situation that will continue to drain water from around California.

To be absolutely clear, LADWP remains committed to meeting our environmental obligations at Owens Lake. With more than a billion dollars already invested, the LADWP is insistent on seeing our customer's investment succeed. We will not walk away from the historic environmental achievements made in this effort.

For nearly two years, LADWP, state agencies, Inyo County and local environmental groups have worked to develop a master plan that would greatly reduce the waste of water for dust mitigation, mitigate dust, enhance the environment and wildlife habitat, and provide a sustainable path forward. Great Basin meanwhile continues issuing orders for new areas for dust control with no regard for such a plan, no evidence of any responsibility by LADWP for dust from such new mitigation areas, and no concerns whatsoever of the costs to LADWP or the impact of continued wasted water on California's water supply.

Our lawsuit seeks to accomplish two basic goals: First, to force Great Basin to abide by the State Constitution as well as applicable federal and state laws; and second, under the supervision of a federal judge, to bring other responsible parties, including the federal and state governments, to the table to devise ways to protect the environment while saving a significant amount of scarce water and safeguarding the pocketbooks of Los Angeles water customers.

LADWP believes there are better ways to protect the Owens Valley environment, save scarce water and treat L.A. residents fairly. We are hopeful that our legal efforts will produce just such a result.

(Today's Top of the Morning is written by Ron Nichols, general manager of the Los Angeles Department of Water and Power.)

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DWP tells state board it's 'done' at Owens Lake

Attorney also says if Great Basin doesn't like it, the district can sue the department

By Mike Gervais 6-23-2012
Register Staff

State air quality watchdogs have a little less than two weeks to decide whether the City of Los Angeles is required to continue dust mitigation efforts on the Owens Dry Lake – despite city attorneys' adamant assertions that L.A. is "done" with any such obligations.

The California Air Resources Board met last Friday to hear arguments from the Los Angeles Department of Water and Power and Great Basin Unified Air Pollution Control District regarding a disagreement between the two entities over mandated mitigation measures.

Over the course of the eight-hour hearing, attorneys for Great Basin reiterated the district's stance that the law requires LADWP to continue to keep dust levels down, while LADWP attorneys said outright that LADWP has completed its obligation, even going so far as to say the state board does not have the authority to require more work from the department.

Stuart Somach, a lawyer with Somach Simmons and Dunn, representing the LADWP, spoke plainly. "So the first thing I wanted to indicate to you, to everyone quite frankly, is we're done," Somach said to the State Air Resource Board, "We're absolutely done in terms of going around and around with these arguments."

In 2008, Great Basin and the LADWP agreed on a plan for dust mitigation measures on the lake that would minimize the impacts of wind-driven dirt coming off the lake as a result of the LADWP's water gathering efforts in the Owens Valley.

Since the agreement, the LADWP has completed dust mitigation on more than 40 square miles of the lake bed that scientists from Great Basin identified as problem areas.

In February, with Great Basin preparing to issue mitigation orders for additional sections of the lake, the LADWP balked, saying that it has reduced dust blowing off the lake by 96 percent and has met its obligation for dust mitigation. The LADWP then appealed to the California Air Resources Board.

Among LADWP's arguments is that the 2008 agreement does not indicate any stopping point for mitigation measures, and, if unchecked, Great Basin would have the ability to mandate a never-ending list of costly dust-control projects.

Speaking for Great Basin, Attorney Peter Hsiao of Morrison and Foster, said "it's undisputed" the Owens Dry Lake bed "is the largest source of particulate air emissions in the country." Under its agreement with Great Basin, he said, the LADWP has a duty to mitigate the dust impacts.

"There is an agreement and existing law," Hsiao said. "Even if Mr. Somach can renege on his agreement, he cannot walk away from existing law. And existing law binds him and binds the city as well."

Great Basin's position, simply stated, is that the 2008 agreement with the LADWP is law, and the department, despite displeasure and disagreements, does not have the right to back out before its mitigation mandates are met.

LADWP attorney Somach fired back.

"We feel that we're done with these arguments," Somach said. "We feel that we're done in terms of our obligations under Health and Safety Code 42316, but we're also done with this continual argument that we have."

Somach went on to say that, under the 2008 agreement, there are statutory provisions that Great Basin's mitigation orders do not impact the LADWP's water gathering

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HEARING

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efforts, or impact to the department's water supply.

The LADWP is currently spreading 95,000 acre-feet of water on the lake each year to meet previous orders issued by Great Basin.

"That 95,000 acre-feet that is being spread on the lake is being spread for dust control," Somach said. "And that dust control could be accomplished by other non-water intensive activities. The City of Los Angeles simply does not have a surplus of 95,000 acre-feet of water, the amount of water, I might add, the City of San Francisco uses on a daily basis for the entire city."

The LADWP also says that Great Basin made an error when determining the historic levels of Owens Lake, which determines where mitigation work should be done.

At the hearing, an archeologist testified for the department that Native American artifacts pre-dating LADWP's early-1900s water gathering efforts prove the lake was actually lower than what Great Basin has identified.

The LADWP also claims that dust blowing off the lake bed was an issue long before the LADWP had a presence in the Owens Valley, which Great Basin should take into account as it looks at mitigation mandates.

> "You have no jurisdiction whatsoever to, in any way, resolve any disputes among the contracting parties with respect to (the agreements between LADWP and Great Basin). If the district has a problem with LADWP's performance under these agreements, it can sue us for breach of contract us. Pure and simple."
>
> – **Stuart Somach,** Attorney for LADWP, addressing the California Air Resources Board

"Great Basin has ignored the fact that the level of Owens Lake would have fluctuated normally in response to changes in hydrology with associated natural dust emissions," LADWP Owens Lake Dust Mitigation Program Manager William Van Wagoner said. "There are numerous historic accounts of major dust events in the Owens Valley, long before the Los Angeles Aqueduct was placed into survey."

In the end, the LADWP basically told the Air Resource Board that, no matter what it determines as a result of the hearing, the state agency is not the decision-making body, and cannot provide a resolution to the dispute.

"You have no jurisdiction whatsoever to, in any way, resolve any disputes among the contracting parties with respect to (the agreements between LADWP and Great Basin)," Somach said. "If the district has a problem with LADWP's performance under these agreements, it can sue us for breach of contract us. Pure and simple."

The State Air Resource Board will reconvene two weeks from the hearing date, on Friday, June 29, to rule on the dispute.

LADWP could choose to obey the law

By Ted Schade

Last week, the Los Angeles Department of Water and Power filed a federal court lawsuit that seeks to prevent enforcement of current federal and state clean air laws regarding its water diversions in the Owens Valley. These diversions have created the dried Owens Lake bed, the largest source of particulate air pollution in the United States. Particulate air emissions of 10 microns or less are regulated by federal and state laws as a danger to human health and the environment. This fine dust lodges deep in our lungs, causing respiratory injuries and special risks to children and the elderly. Over the past year, LADWP's operations have created dust storms exceeding the federal standard on 25 separate days and the more restrictive state standard on 87 days.

In 1997 and 2006, the LADWP entered into a series of agreements to control the dust emissions caused by its operations. Those agreements resulted in regulations approved by federal and state regulators that require the LADWP to implement control measures that can include, at its option, gravel, vegetation or flooding on areas that its water diversions have left dry.

In 2011, the LADWP walked away from its agreements and initiated a series of actions to avoid the cost of these controls, while continuing to divert water and profit from their diversions. In an attempt to avoid legal requirements, the LADWP has now sued every federal, state and local air quality regulator, including the U.S. Environmental Protection Agency, the California Air Resources Board, and the Great Basin Air Pollution Control District.

Along with its lawsuit, the LADWP has engaged a media campaign. In the Oct. 20, 2012 "Top of the Morning," the LADWP spends considerable effort painting the Great Basin as the problem in the latest disagreement. LADWP concludes that because of Great Basin it "has been left with absolutely no choice but to file a lawsuit in federal court." I disagree. The most obvious choice for LADWP is to comply with the air pollution laws. This is certainly the choice that any responsible public utility would make, not just to avoid the legal costs and penalties for violating the law, but because it is the right thing to do in order to protect the people affected by its air pollution. The District is asking the LADWP to keep its past promises and comply with the law.

Previous leaders at the LADWP and the City of Los Angeles have repeatedly agreed to their responsibility to control the dust caused by their water diversions. They shared the understanding that the LADWP's need for water comes with a responsibility to protect the environment and the health of the communities it impacts. These past leaders undertook one of the largest air pollution control projects ever attempted and have controlled almost 90 percent of the air pollution emitted from the Owens Lake bed. The problem is, Owens Lake dust emissions levels were more than 100 times the standard and, in order to meet clean air requirements, dust levels must be reduced by 99 percent. The dust levels are ten times lower than they were 15 years ago, but they are still ten times too high.

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However, with the end in sight, current LADWP leaders have apparently decided "enough is enough." They have concocted a list of reasons why they should not have to comply with past agreements and the law.

LADWP falsely claims that Great Basin "keeps moving the goal posts." The "goal posts" are the federal and state air pollution standards. Great Basin does not make these standards. The current dust control plan was adopted in 2008 after intense negotiations and collaboration between Great Basin and LADWP. The plan requires LADWP to continue, step by step, to deploy dust controls until the Owens Lake bed meets the standards. The LADWP has now unilaterally decided to break these hard-fought agreements because its current leaders find them too expensive or too difficult to comply with.

The LADWP's most outrageous claim is that "Great Basin continues to mandate wasting billions of gallons of drinking water to control dust at Owens Lake." All the water used on Owens Lake is there because LADWP solely decided or agreed to put it there. Great Basin does not order LADWP to deploy any one type of dust control. Great Basin only identifies areas on the dried lakebed that cause air quality standard exceedances. LADWP selects and deploys the approved control measures. Approved measures include gravel, vegetation and flooding. When LADWP says it is wasting water, it ignores the fact that it could have deployed low-water use vegetation, or gravel, which uses no water at all.

In fact, the most recent dust control project completed by the LADWP consists of two square miles of gravel. The project was completed well ahead of schedule and will now control dust with no water and virtually no operation or maintenance costs. LADWP claims that they cannot get permission from the state to construct gravel controls, but their recent gravel success proves this claim is false.

Great Basin has repeatedly committed to work with LADWP to make dust controls more water efficient. In 2003 and 2008 Great Basin adopted plans that included special provisions to test reduced water controls. The latest agreement signed by both agencies in 2010 reiterates Great Basin's commitment to efficient water use. Yet, LADWP has yet to take advantage of these provisions. Los Angeles water ratepayers should ask why.

LADWP makes the remarkable claim that the dust is not coming from Owens Lake. To the contrary, the Great Basin, using a monitoring system that was developed with the agreement of the LADWP, collects about 50 million data records per year that prove the dust comes from the dried lake bed.

The LADWP editorial claims that "LADWP and its customers are absolutely committed to fulfilling our obligations to control dust at Owens Lake." But, what LADWP wants is for past agreements to be ignored and current laws to be changed to relieve the LADWP from its responsibility to clean up after itself.

LADWP appears to hope that the mere brashness of repeating these falsehoods over and over again will be enough to get the public to believe them. The Great Basin staff is comprised of scientists, not public relations experts, and we can only respond with the facts. The fact is that LADWP can both comply with law and save water. It can produce water for its ratepayers and protect the environment and the residents of the Owens Valley from the harmful effects of its water diversions. None of LADWP's lawsuits or public relations efforts will change those facts.

The citizens of both the Owens Valley and the City of Los Angeles deserve to know the truth. They deserve a public utility that obeys the law. And most of all, they deserve clean air.

(Today's Top of the Morning is written by Ted Schade, Air Pollution Control Officer and 22-year employee of the Great Basin Air Pollution Control District.)

The Inyo Register 10-23-2012

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The Inyo Regist

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Proposal would put Owens Lake on National Registry

The district would include historic shorelines dating back 14,000 years

By Terrance Vestal
Managing Editor

The Patsiata Tribal Oversight Committee, composed of tribal historic preservation officers of five local tribes, with the assistance of the Great Basin Unified Air Pollution Control District and other agencies, has almost completed its application to nominate the Owens Lake as a historic site to be place on the National Register of Historic Places.

Photo by Chris Langley

At its Tuesday virtual meeting, the Inyo County Board of Supervisors agreed to submit a letter of support regarding the creation of a historic district on the Owens Lake to be included in the National Register of Historic Places.

While in general support of the nomination, a combined effort by local tribes and the Great Basin Unified Air Pollution Control District, Fifth District Supervisor and board Chairman Matt Kingsley expressed concern about the impact the designation might have on private property located within the proposed district.

The area included for the proposed nomination follows the historic shoreline of the Owens Lake (from about 14,000-years ago), according to county support documents. The extent of the historic district boundary is from the current southern tip of the dry lake on the south and just slightly north of Manzanar Reward Road on the north. On the east it roughly follows highways 190 and 136 and Owenyo Lone Pine Road; to the west U.S. Highway 395.

Phillip L. Kiddoo, air pollution control officer for the GBUAPCD, said the nomination of Owens Lake, known as "Patsiata" in the Paiute and Shoshone languages, is being led by the Patsiata Tribal Oversight Committee, composed of the tribal historic preservation officers of five local tribes with close ties to the lake: the Lone Pine Paiute-Shoshone Tribe, the Timbisha Shoshone Tribe, the Big Pine Paiute Tribe of Owens Valley, the Fort Independence Indian Community of Paiute Indians and the Bishop Paiute Tribe.

Kiddie said the nomination is being sponsored by the Great Basin Unified Air Pollution Control District with support from California State Lands Commission, the primary landowner.

Kiddoo said GBUAPCD got involved in the archeological district nomination because "it's the GBUAPCD's responsibility to protect public health and the environment from the harmful effects of air pollution."

He pointed out that Owens Lake is the largest source of dust particulates in the nation because of water diversions by LADWP. To abate the "fugitive particulate emissions" at Owens Lake, dust controls are required by the GBUAPCD under the authority of the Clean Air Act. These dust controls are built by LADWP.

In 2014, the California Superior Court decision put an end to two years of litigation between the GBUAPCD and LADWP with several components including a stipulation, agreed to by both parties, that cultural resources would be protected.

"The requirement to construct, operate and maintain dust control measures may impact cultural resources," Kiddoo said.

Kiddoo related how over time there continued to be disputes between the

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LAKE

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GBUAPCD and LADWP over missed deadlines and mitigation efforts, which were resolved by the creation of the Cultural Resource Task Force in 2014.

With input from the tribes, landowners and other stakeholders, it became apparent that there needed to be a more comprehensive evaluation of resources rather than the current stopgap measure that looks at projects on a case-by-case basis with only a "piecemeal" understanding of cultural resources located at those project sites.

In July 2017, the GBUAPCD's governing board adopted a resolution that provided Great Basin staff the approval to take on this initiative.

Ann Logan, deputy air pollution control officer GBUAPCD, said an objective of the GBUAPCD in its support of the nomination effort was to identify significant cultural research sources at a landscape level that are associated with Owens Lake so they could be considered in future planning, project implementation and long-term stewardship.

Logan said the nomination is unique in that it interweaves both the archaeological perspective and the tribal perspective. The work on the nomination has included recording and compiling tribal history from archival sources as well as interviews with tribal elders, and synthesizing all existing archaeological data on and around Owens Lake.

She said the combined nomination effort included TEAM Engineering, on behalf of the GBUAPCD, the California State Lands Commission, the primary landowner, and LADWP, which provided support including the services of Far Western, the utility's archeological consultants that synthesized the majority of the archaeological data for the nomination.

Through the compilation of the archaeological and tribal information the proposed boundary of the historic district has been determined to include current Owens Lake as well as historic shorelines dating back 14,000 years that are associated with indigenous use, she said.

Part of the nomination process includes the identification of "contributing" and "non-contributing" elements within the boundary, Logan said. Modifications were made to the boundary to exclude "non-contributing elements," including the communities of Lone Pine, Keeler, Olancha and Cartago.

Logan said 98 percent of the land within the proposed boundaries is public land with approximately two dozen private landowners within the boundary.

All public and private landowners within the boundary have been notified along with other stakeholders, she said. Once the nomination is submitted, the California State Historic Preservation officer will review the nomination and will again notify property owners and solicit further public comment.

Logan said if a majority of the private property owners object to the nomination it may not be listed but it still could be determined as "eligible." A determination of eligibility has the same implications as being "listed." An agency version of the nomination will be released so that Inyo county and other agencies that own or manage land within the boundary will have access to information regarding the cultural and historic importance of the historic district. The agency version, which will include both the lists of contributing and non contributing elements should assist and streamline agencies and meeting environmental review requirements.

For property owners, a listing or determination of eligibility does not alone replace any restrictions as to what a property owner can or cannot do, Logan said. But additional review or analysis could be required under the California Environmental Quality Act if the action may cause a significant impact for properties listed on the state or national register.

Logan said listing, or eligibility on the state or national register establishes that the resource is a historical resource and has significance. Depending on the project, this could limit the discretion of an agency to utilize exemptions or negative declarations.

However, she said, the nomination could streamline environmental review and planning for some projects as much of the information and analysis required under CEQA or other existing laws will be completed and will be shared via the agency version of the nomination.

Supervisors also heard from Kathy Jefferson Bancroft, the tribal historic preservation officer of the Lone Pine Paiute-Shoshone Tribe, regarding the significance of the Owens Lake both historically and culturally to area tribes.

Supervisors agreed that the cultural and historical significance of the Owens Lake area should be honored and were in favor of sending a letter of support. Kingsley directed staff to include his concerns regarding restrictive impacts on private property, property that is already scarce within Inyo County.

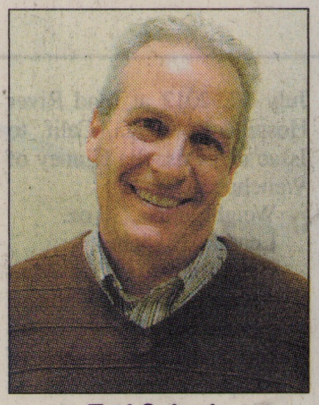
LADWP files lawsuit against Great Basin

City accuses district, air pollution control officer of moving Owens Lake 'goal posts'

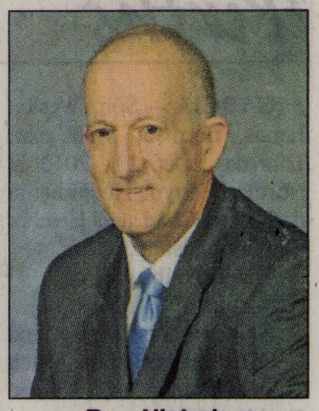
The Inyo Register

By Mike Gervais
Register Staff

10-18-2012



Ted Schade



Ron Nichols

Los Angeles Department of Water and Power officials filed a federal lawsuit Friday to force the Great Basin Unified Air Pollution Control District to halt what the department is calling Great Basin's "systematic and unlawful issuance of water-wasting orders to L.A.'s customers," related to dust mitigation on Owens Lake.

To date, the LADWP has spent $1.2 billion over the past 10 years to control dust blowing off Owens Lake, in compliance with regulations.

The LADWP is claiming that it has met its obligations on the dry lake, and will not be spending more city money or water for new mitigation measures.

Currently, the department said it is using approximately 50 percent of the water from the Los Angeles Aqueduct for dust mitigation, and purchasing water from the Metropolitan Water District of Southern California to make up the difference.

The LADWP did say it would continue its current dust mitigation projects.

Great Basin Unified Air Pollution Control Officer Ted Schade said the LADWP has reduced dust blowing off the dry lake by 90 percent, but is required by law to reduce at least 99 percent of the dust. He said mitigation orders issued in 2010, 2011 and an order that is in the works for 2012 should complete the project.

The LADWP said the most recent orders would require LADWP to spend another $400 million to mitigate air pollution that it says it did not cause.

"These orders, according to the lawsuit, are in violation of the California State Constitution and federal and state laws and will, unless they are halted, result in the continued waste of billions of gallons of scarce California drinking water," a press release from the LADWP states.

Schade said Great Basin "has carefully reviewed the DWP's lawsuit and believes it will not prevail in its attempts to avoid the law. The DWP has broken its promises to the Owens Valley. The District believes its goals are shared by the people of the City of Los Angeles; that the DWP's need for water comes with a legal responsibility to protect the environment and the health of the communities it impacts. Great Basin believes the court will see through DWP's attempts to avoid the law and will order the DWP to control its air pollution."

Ron Nichols, general manager of LADWP, accused Schade in a press release of making up his own interpretations of the law.

"Los Angeles water consumers have devoted more than $1.2 billion over the last decade to control Owens Lake dust," Nichols said. "And we have achieved exactly what we agreed to do and were required to do by Great Basin. As we wrap up our obligations, the local regulator moves the goal posts, making up his own interpretation of the law without accountability to even his own board. Great Basin seeks to force L.A. to spend hundreds of millions more to reduce dust that the City did not create – all while requiring L.A. to fund 90 percent of his entire agency's operating costs, including staff salaries, pension system and paying his outside lawyers at the rate of $750 an hour. Enough is enough."

The lawsuit, filed in the United States District Court for the Eastern District of California last week, alleges, among other causes of action, that Great Basin and Schade, as its air pollution control officer, have:

- Ignored statutory limitations on their authority;
- Acted in an arbitrary and capricious manner;
- Issued orders that originate from an unenforceable legal source;
- Acted to treat Los Angeles water customers differently

See LAWSUIT, page A-5

LAWSUIT

Continued from front page

than any other similarly situated consumers anywhere else in California or the United States;

• Issued orders based on flawed science in an attempt to force Los Angeles consumers to mitigate dust emissions that were not caused by LADWP; and

• Compelled the LADWP to engage in an unconstitutional waste of water, to the detriment of both California's overall water supply and water consumers in the City of Los Angeles.

The lawsuit comes on the heels of a State Water Resources Board hearing this past spring that weighted both sides of the argument.

The Air Resources Board was scheduled to consider arguments from the LADWP and Great Basin, and decide if the utility had met its obligations for dust mitigation as stated in a 1997 agreement.

Schade said both Great Basin and the LADWP requested that the Air Resources Board withhold its finding to give both agencies an opportunity to attempt to reach a solution on their own.

"This was a complete surprise to us. I thought we were going into mediation, a discussion, but it seems they have decided to declare war here," Schade said.

In an op-ed submitted for publication to *The Inyo Register*, Nichols says Great Basin has refused to cooperate in discussions with LADWP.

"In recent months we have held high-level discussions with governmental leaders to work with LADWP to help build consensus around new, innovative approaches that will protect the water, conserve scarce water and be more cost-effective for LADWP water consumers who now pay two months a year of their water bills solely for dust mitigation," Nichols writes. "Unfortunately, one essential party – the Great Basin Unified Air Pollution Control District – refused to participate in this process in any useful way and instead decided to both sue the city of Los Angeles over the department's appeal of demands to pay for outrageous legal fees of Great Basin's outside counsel while at the same time continuing to impose unjustified demands on the department for new areas of dust control."

The LADWP says it has met its obligations on the Owens Dry Lake, and will not be spending any more of L.A.'s money or water for new mitigation measures. To drive home its point, the utility filed a lawsuit in federal court Friday against the Great Basin Air Pollution Control District.
File photo

Nichols further writes that the lawsuit sends a message to the residents of L.A., "that while we intend to continue to honor our obligations at Owens Lake, our water consumers will no longer be victimized by an unaccountable local regulator."

LADWP's decision is supported by L.A. Mayor Antonio Villaraigosa.

"The LADWP brought this lawsuit only as an absolute last resort," he said in a press release. "We have no intent to walk away from our fundamental obligations at Owens Lake. In fact, over recent months, we have been working productively with federal and state officials on a process that would have both protected the environment while saving enormous amounts of water and safeguarding the pocketbooks of Los Angeles ratepayers. Unfortunately, just one agency stood in the way of progress by continuing to issue unreasonable orders on the people of Los Angeles. As a result, we had no choice but to go to court."

The .lawsuit, along with other relevant materials, can be found at www.ladwp.com/OwensLake.

ADVERTISEMENT

L.A. Times 10-21-2012

Los Angeles Area Chamber of Commerce

CCA | Central City Association of LOS ANGELES

VICA VALLEY INDUSTRY & COMMERCE ASSOCIATION SINCE 1949

STOP THE WATER WASTE!

Los Angeles water consumers and businesses refuse to continue to be "fish on a hook" for a government regulator. We applaud LADWP's decision to ask a federal court to halt this regulator's unreasonable demands on L.A. residents and businesses and on California's scarce water supply.

The regulator is the Great Basin Unified Air Pollution Control District, from Inyo County, California. For more than a decade LADWP's consumers have paid for the construction and operation of dust control measures on the dry Owens Lakebed. The project has cost $1.2 billion dollars and absorbed billions of gallons of fresh drinking water -- all in an effort to fulfill the city's commitment to control dust resulting from diverting water from Owens Lake that started a century ago.

This year, the Great Basin regulator has demanded that Los Angeles water consumers dramatically expand the scope of efforts to control dust that Los Angeles did nothing to cause. These orders violate the law and will add another $400 million dollars to the cost of the project.

L.A. Times 10-21-2012

Enough is Enough

Why should roughly two months of the average L.A. consumer's water bill be used to pay Great Basin's $750 an hour legal bills; to fully fund the pensions and salaries of the bureaucrats who are taking this unlawful action; and to compel the continued pouring of billions of gallons of fresh drinking water on the Owens Valley floor until the desert ceases to produce dust -- a result that will never be achieved? All while other responsible parties are given a free ride because, in the words of Great Basin's chief administrator, L.A. consumers are right where he wants them, like "fish on a hook."

LADWP's dust mitigation efforts in the Owens Valley have been incredibly successful. In fact, L.A.'s efforts have gone beyond what was necessary to reduce air pollution related to water diversion.

We all know that water is an increasingly precious and expensive commodity, and all of our efforts at water conservation have resulted in dramatic savings. In fact, Los Angeles uses less water today than it did 40 years ago, despite growing by a million people. But while we all conserve water, every year the LADWP is forced to pour on the Owens Valley desert floor more than the amount of fresh drinking water the citizens of San Francisco consume in an entire year. That's enough water to fill and overflow the Rose Bowl each and every day of the year. It makes no sense. Water is scarce and this waste of water in the Owens Valley means LADWP has to buy more expensive water from the Metropolitan Water District, placing even greater strain on the Bay/Delta.

LADWP did the right thing by asking for relief from the federal courts. As L.A. water consumers, our patience has run out, and we will strongly oppose any effort by Great Basin to require us to pay for dust control that is beyond our responsibility.

Gary Toebben

Carol Schatz, President & CEO
Central City Association

Gary Toebben, President & CEO
LA Area Chamber of Commerce

Stuart Waldman, President
Valley Industry & Commerce Association

LADWP developing long-term dry lake plan

Utility informs fellow members of Master Plan group it's moving ahead

By Mike Gervais
Register Staff

Using input from other members of the lake's Master Plan Committee, the LADWP is hoping to have a workable plan for the lake "in our lifetime" while meeting seven criteria it says it "must have" to continue its Master Plan efforts. The LADWP said it will present its plan to the committee for approval once it is complete. Photo courtesy Great Basin Unified Air Pollution Control District

With ongoing litigation tying up the Los Angeles Department of Water and Power's mitigation work on Owens Lake, the utility is hoping to take the initiative and develop a long-term solution to dust blowing off the lake.

The LADWP issued a statement earlier this week telling members of the Owens Lake Master Plan Committee that it will begin working on a project design that would incorporate elements that it hopes will meet the needs and goals of each member agency.

The Owens Lake Master Plan Committee was created in 2010 to develop a "framework that identifies broadly supported goals and objectives to enhance the Owens lakebed," the group's mission statement says. The 31-member group includes representatives from Inyo County, local tribes, the LADWP, environmental groups, including the Audubon Society, Sierra Club, Owens Valley Committee and Bureau of Land Management.

The Master Plan is to focus on dust mitigation, habitat and wildlife, water efficiency methods and potential renewable energy development.

The Master Plan Committee worked together to draft a Master Plan that was released for review in December 2011.

That plan "blew up," LADWP Director of Water Operations Marty Adams said Thursday. "Everybody just retreated to their original position."

Since then, the group has continued to meet in an effort to create a mutually acceptable plan for management of the lake, but Adams said that has been slow going.

Last month, the LADWP issued a letter to the Master Plan Committee, outlining seven "must-haves in order to commit to a significant investment in money and resources to achieve a more sustainable and eco-friendly result at Owens Lake."

Those must-haves include:

• Acceptance of Master Plan elements that protect or improve the habitat and public benefit goals within the areas where LADWP dust controls currently exist.

• Reduction in the amount of Los Angeles Aqueduct water applied to Owens Lake for dust mitigation by at least 50 percent to lessen L.A.'s need for

See PLAN, page A-5

Cops to crack down on distracted driving

PD announces 'zero tolerance' for texting, other cell phone use

By Marilyn Blake Philip
Register Staff

Text messaging and talking on cell phones have proven to be as dangerous as drunk driving and local law enforcement will be cracking down on both this coming month.

The Bishop Police Department is joining the nationwide Distracted Driving Awareness Month campaign starting April 1. BPD will show "zero tolerance" to drivers who put themselves and others at risk by texting or using handheld cell phones while driving, said Chief Chris Carter.

According to the National Safety Council, "Thousands die needlessly each year because people continue to use their cell phones while driving, handheld or hands-free." The site asks the public to join the organization "in urging those you care about to stop using cell phones while driving; understand the dangers of the cognitive distraction to the brain; inform people who call you while driving (that you will) continue the conversation once they have reached their destination; and tell others about

See ZERO, page A-9

TRIBES PROTEST LADWP WORK AT HISTORICAL SITE

By Vane 2-22-2014

A demonstration at Owens Lake on Wednesday, Feb. 12 led to the temporary suspension of Los Angeles Department of Water and Power (LADWP) dust mitigation on a 50-acre portion of Owens Lake. The reason: the site may contain historical artifacts from the massacre of 35 Paiute Indians in 1863 by white settlers and U.S. Cavalry soldiers.

The demonstration attracted more than 60 participants, according to Lone Pine Tribal Historic Preservation Officer Kathy Bancroft.

"The best part about it was the representation we had," she said; "from every tribe from Mono Lake and Benton down to Death Valley and Kernville. The support was really strong."

She added that demonstrators included several Los Angelenos who drove up to rally for the cause. "It really feels good to know you're not out there by yourself," she said.

According to LADWP Director of Water Operations Marty Adams, contractor Bernard Constructions has halted work at that particular area until Monday, Feb. 24. "We'll probably halt the work longer than that," he said; "the plan is to redo the pedestrian [archaeological] survey to see if there's anything out there we don't know about."

The contested 50 acres sit directly adjacent to a site previously identified by the DWP as containing significant historical artifacts, including the remains of the 35 Paiute Indians drowned or killed in the lake as they attempted escape from a posse of settlers and soldiers.

The DWP discovered these artifacts and remains in 2012. Great Basin Unified Air Pollution Control District (GBUAPCD) Air Control Officer Ted Schade explained that as of last year, the DWP and GBUAPCD agreed via settlement to set aside the 277 acres containing significant cultural resources into a "7b" project from the total 1,900-acre project. The remaining acres were designated "7a."

The DWP agreed in the same settlement to complete the 7a dust mitigation project by 2015, and to the creation of a Cultural Resource Task Force composed of the DWP, GBUAPCD, State Historical Preservation Office, and local Tribal Representatives, to determine how to manage area 7b.

The settlement also determined procedures for the DWP, should they encounter any additional significant cultural or historical resources in area 7a, said Schade. If two archeologists, one approved by the DWP and one approved by the DWP, GBUAPCD, and State Lands Commission, agree on the significance of the find, that area would be integrated into 7b.

However, said Adams, the 2013 settlement did not establish clear procedures should the Lone Pine Paiute-Shoshone Tribe argue that an area was of cultural significance without any visible artifacts.

"We're in this weird spot," Adams said, "where people maybe don't want us to proceed, but where we haven't found anything yet."

Adams added that a review by archeologists and possibly anthropologists could determine that the area is of cultural significance even without visible remains or artifacts.

"We have no intention of tearing up any artifacts or intruding on a sensitive area," he said. "At the same time, we have dust mitigation requirements. You've got history colliding with a control order."

Kathy Bancroft said the Tribe was under the impression that, in discussions with the DWP and GBUAPCD, they had a say in the management of the entire 7a/b project. Only at the last minute did they realize that contractor Bernard Construction was preparing to begin work in an area in 7a that the Tribe believed was culturally sensitive.

"All we're asking right now is to put that small 50 acres into 7b, to be looked at by a task force, so we can still talk about it," she said. "We just want to buy time to get them to understand."

The historical site is significant not just to the local Tribes, Bancroft argued: "It's a part of all of us. It's something we need to remember."

"It's not an easy call," said Schade. "There's a clash between our need to protect the health of our people, and their need to protect their cultural memories. Hopefully we can find a way to do both."

One option not on the table is simply moving the designated dust control area to another location on Owen Lake. "That would be like putting a band-aid on an area that doesn't have a hurt," Schade said. "We need to figure out a way to stop the bleeding."

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Annual Audubon event features dinner, bird talk

Candlelight potluck to be followed by presentation on Owens Lake, Owens River IBAs

Register Staff 11-30-2013

Eastern Sierra Audubon Society is presenting the opportunity next week to enjoy an intimate candlelight dinner with 30 or so fellow residents while hearing one of the foremost local birding authorities discuss the Owens Lake.

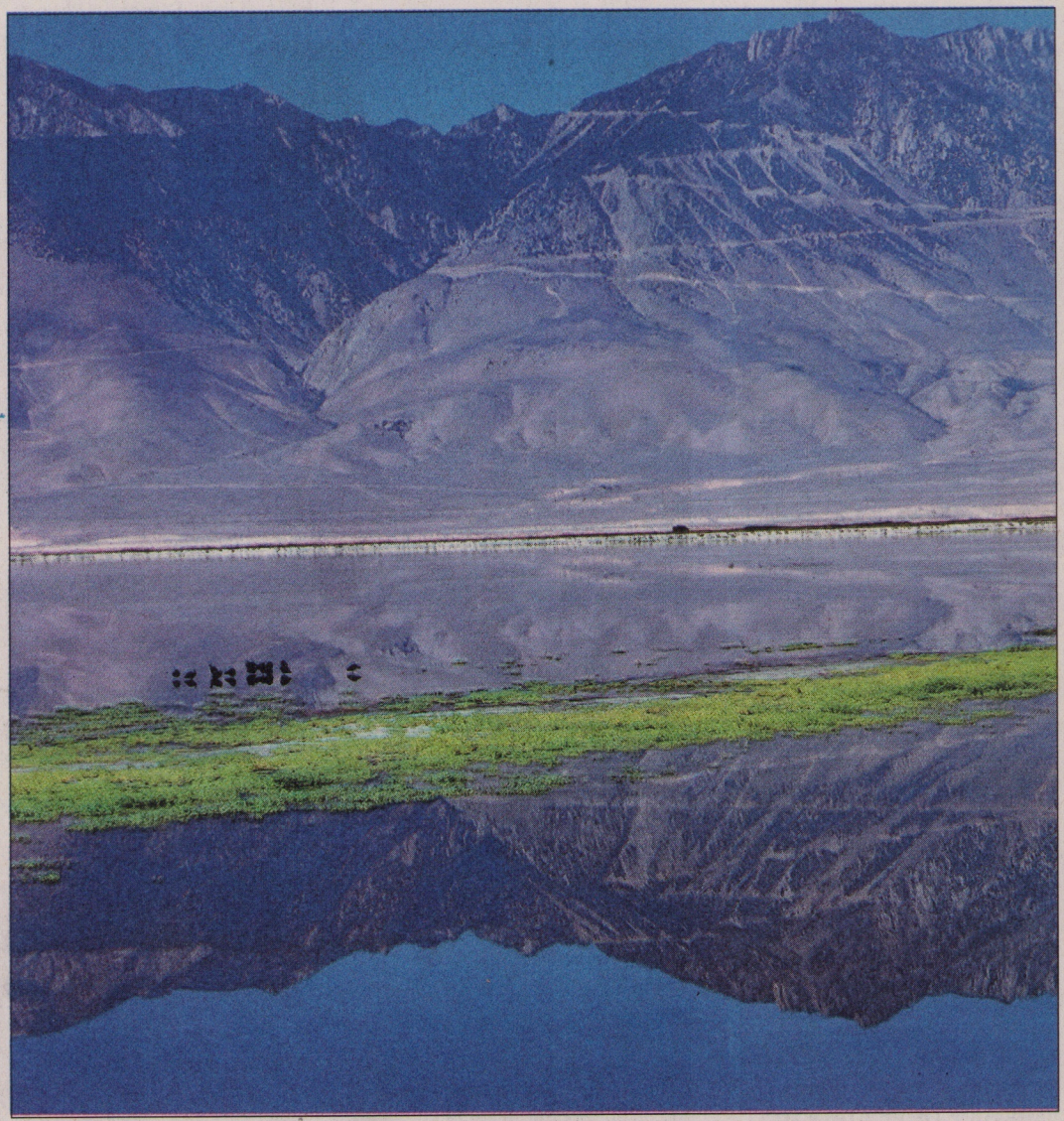
Anyone with an interest in birds and birding is invited to the group's annual potluck candlelight dinner and program, set to begin at 6 p.m. at the White Mountain Research Station, 3000 E. Line St., Bishop.

Each participant should bring a dish (entrée, salad or dessert to serve at least six people) and contribute juice, soft drinks, wine or beer to the beverage table. Please bring your own place setting.

Dinner will be followed by a program at 7 p.m. with guest speaker Michael Prather presenting "Owens Lake and Owens River Important Bird Areas."

According to the Eastern Sierra Audubon chapter, the Owens Lake and Owens River are not only considered Audubon Important Bird Areas – areas recognized as being globally important for bird populations – but are two of the largest IBAs in California.

The Owens River provides riparian and open water habitat for songbirds, waterfowl and marsh species while Owens Lake has many square miles of shorebird habitat, a press release explains.



The Sierra is reflected in one of the still, shallow ponds on the Owens Lake, where migrating birds made a critical pit stop this past September. Photo by Jon Klusmire

"Audubon members help monitor both of these areas and collect bird data that helps in supporting proper management and protection," the press release states.

The chapter also leads field trips along the Owens River and around Owens Lake. The population of migrating birds to these two places has exploded, according to Eastern Sierra Audubon, which noted that in April of this year, birders recorded 115,000 birds at Owens Lake in one day.

Prather, a resident of Lone Pine and birding authority, has been teaching about Owens Lake and organizing Owens Lake Big Days for many years. "He has participated in the Owens Lakebed Planning process, giving important input about the habitat potential in this returning wildlife heritage site," the press release states.

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND NOTICE OF PUBLIC MEETING FOR THE PROPOSED OWENS LAKE PHASE 7A DUST CONTROL MEASURES PROJECT

PROJECT DESCRIPTION: The Los Angeles Department of Water and Power (LADWP) is currently implementing the Owens Lake Dust Mitigation Program (OLDMP) on Owens Lake in order to reduce exceedances of particulate matter (PM10) air quality standards. LADWP constructs and operates dust control measures (DCMs) on the lake in compliance with Agreements with the Great Basin Unified Air Pollution Control District (GBUAPCD) under the authority of California Health & Safety Code Sec. 42316, legal agreements with GBUAPCD, lease agreements for use of state lands, and other regulatory approvals. The original Phase 7a project would expand and modify the existing system of dust control on the lake by installation of Best Available Control Measures (BACM) (Gravel Cover, Shallow Flooding and Managed Vegetation) and Tillage on 3.1 square miles of area identified as emissive by GBUAPCD. In addition, approximately 3.4 square miles of existing Shallow Flooding dust control areas (DCAs) will be transitioned to a hybrid dust control method using a combination of the three BACM to minimize dust while conserving water use on Owens Lake. The Initial Study and Draft EIR found that implementation of the project may result in significant environment impacts to air quality, cultural resources, biological resources, and traffic hazards. Mitigation measures have been identified to reduce impacts for air quality, biological resources, and traffic hazards to less than significant levels. However, the analysis in the EIR indicates that the Phase 7a project as originally proposed would have significant irreversible impacts on unique cultural resources. Therefore, alternatives to the originally proposed project have been evaluated including an Avoidance Alternative which would protect significant cultural resources.

PROJECT LOCATION: The 110 square-mile Owens Lake is located in Inyo County, California, approximately 5 miles south of the community of Lone Pine and approximately 61 miles south of the city of Bishop. Owens Dry Lake is bounded by State Route (SR) 136 to the north and east, SR 190 to the south, and U.S. Highway (U.S.) 395 to the west.

PUBLIC COMMENT PERIOD: The 45-day public review period for the Notice of Availability will commence on February 1, 2013 and conclude on March 18, 2013. An electronic version of the draft Environmental Impact Report may be viewed online at http://www.ladwp.com/envnotices. Copies are also available for review at Los Angeles Department of Water and Power, Bishop Office (300 Mandich Street, Bishop, CA 93514), the Bishop Library (210 Academy Avenue, Bishop, California 93514), the Lone Pine Library (corner of Washington and Bush Streets, Lone Pine, California 93545), the Inyo County Library Big Pine Branch (500 South Main Street, Big Pine, California 93513), the Inyo County Library Independence Branch (168 North Edwards Street, Independence, California 93526), and the Cerro Coso Community College Library (3000 College Heights Boulevard, Ridgecrest, California 93555).

Please submit comments in writing by 5:00 p.m. on March 18, 2013 to:

Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1050
Los Angeles, CA 90012
Attention: Ms. Laura Hunter
Comments may also be faxed to Ms. Hunter at (213) 367-4710.

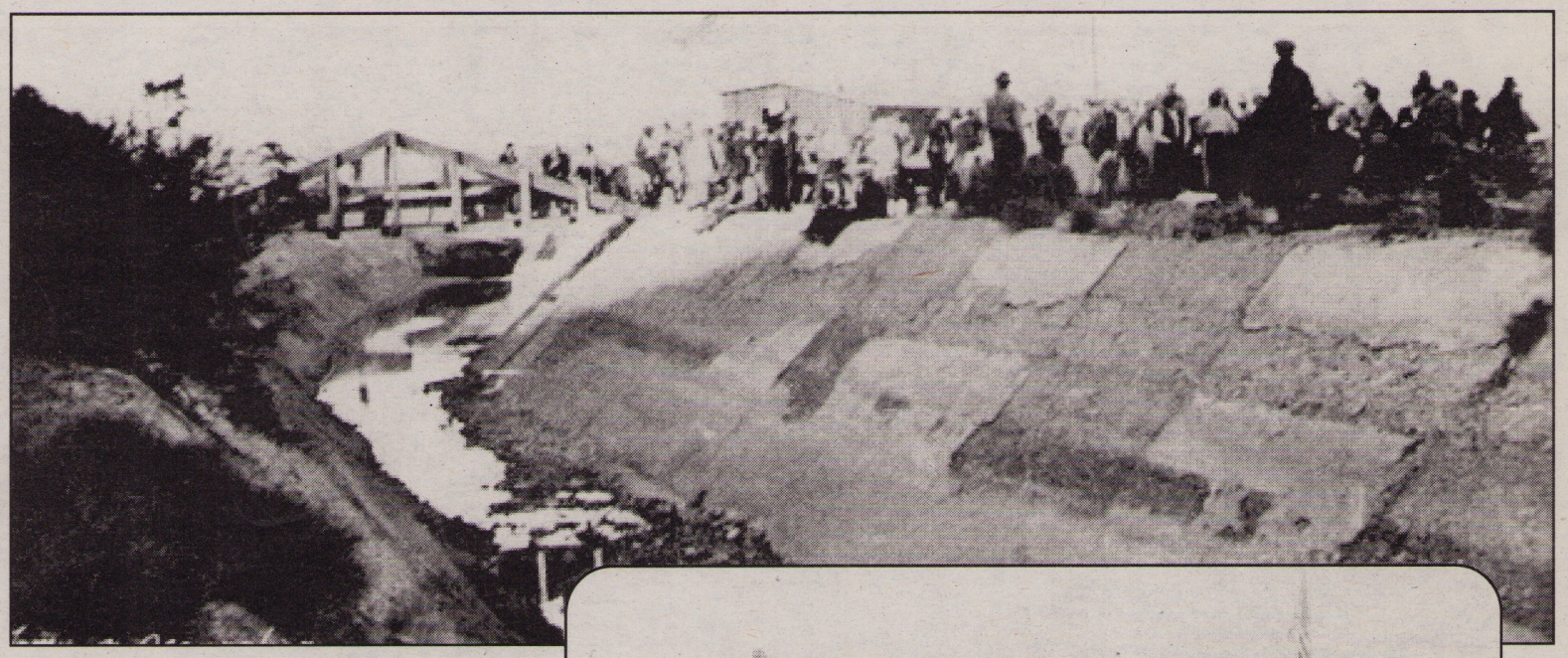
Public Meeting: A public meeting will be held to discuss the draft EIR. Agency representatives and members of the public interested in the Phase 7a project are welcome to attend.

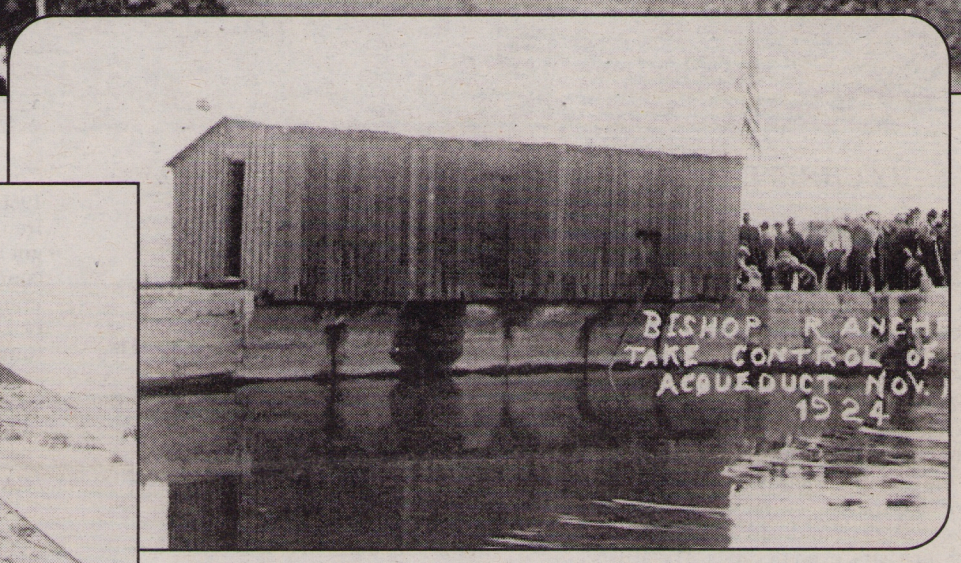
Tuesday, February 26, 2013
5:00 – 6:00 p.m.
LADWP Sulfate Facility
Training/Conference Room
111 Sulfate Road
Keeler, California 93530
[1 mile south of Keeler, west side of State Highway 136]

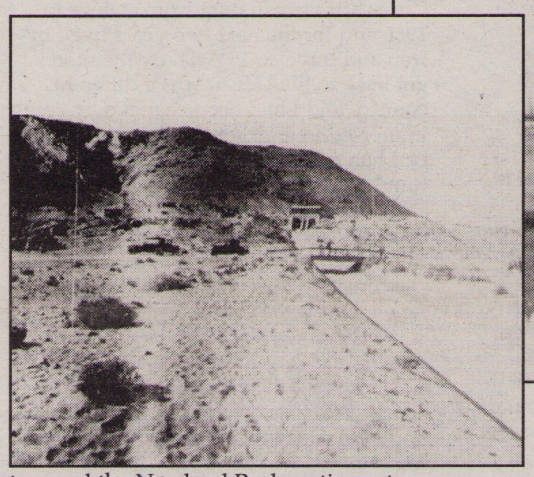
THE BACKYARD HISTORIAN

WHEN THE COUNTY RANCHERS TOOK A "WATER PICNIC"

By Chris Langley







One of the interesting events of the period of the "Water Wars" that followed the completion of the Los Angeles Aqueduct was the takeover of the Alabama Gates Spill way just north of Lone Pine, in the fall of 1924. The period before and after was a time of great tension particularly between the ranchers of northern Inyo and the L.A.D.W.P. It was the northern areas that were experiencing the greatest impact of the water being exported to Los Angeles. At the same time, in 1923 and 1924 Los Angeles had started an aggressive land buying program of ranches and farms and were arrogantly ignoring the "voice of the people." Owens Valley settlers feared they would loose control of their communities and ways of making a living. They wanted and needed significant accommodations from the DWP to continue the quality life and the rewards of hard work of our pioneers. Los Angeles refused to listen and negotiate a compromise

The deep challenges to the fabric of the local community life presented by the Los Angeles city's actions finally resulted in the takeover. It was a moment of community pride for the people who came to the "picnic." Sadly it was also an act that may have gained notice on the world stage, but ultimately resolved nothing when it ended.

While the site where the "water picnic" took place still exists, it has been updated and changed significantly from the days of the takeover. It is located just north of Lone Pine and is easily seen while driving on Highway 395.

John Walton writing in his fine and detailed book *Western Times and Water Wars: State, Culture and Rebellion in California* sets the scene with a discussion of the economic situation in the Owens Valley at the time of and after agents for the DWP were preparing for their massive water project for the City. At the turn of the century in California, a progressive movement was taking hold that at first was pleasing to local residents. "Initially local society welcomes the change and, with some justification saw it as the fiulfillment of the promise of prosperity. But philosophical promise soon turned to politics and politics to betrayal, at least from the standpoint of local ambition. Animated by a culturally rooted sense of injustice, Owens Valley communities and classes for the first time united in protest. A new repertoire of collective action was elaborated, based on traditions of popular justice and thoroughly modern claims on the state."

Walton states it was a group of the local pioneer community of farmers and burghers against an urban growth coalition of merchants, manufacturers, developers, public officials and technically expert aqueduct builders. "Participants understood it as a confrontation between urban progress and the continued existence of a local society—a confrontation in which the state would determine who won and who lost."

At the turn of the century an economic boom hit the Owens Valley, primarily stimulated by mining claims. It was modest by many standards, but stimulated agriculture and led ultimately to the revival at Cerro Gordo from 1911 to 1919. The Watterson Brothers incorporated the Inyo County Bank in 1902. Also in 1902 Los Angeles regained control of its water system and the Newland Reclamation act was passed which allowed the Federal government to become involved in water projects in the western states. Promotion in the first ten years saw the county population rise sixty percent and Bishop's residents double in number.

Los Angeles was determinedly awaiting the next boom and its officials were actively planning on policies to encourage development. In the first ten years of the century, the population of the city tripled. Mayor Fred Eaton who was active in the creation of the Department of Water and Power, proposed a gravity fed aqueduct system to bring water for development to the southern California area. He actually took action by taking options on land here that would be necessary for the construction of the Owens Valley Aqueduct.

The Reclamation Service was also surveying and planning maiden projects that were focused on the Owens Valley. So the City and the Service were both surveying the valley, taking options and in other actions forcing an eventually conflict between the two agencies over the water of the Owens Valley. The ranchers by and large supported the Reclamation plan because they saw it as benefiting them the most. Inyo District Attorney William Dehy and Mary Austin, among many, took stands, at times elegantly, against the plans of the city and for the Reclamation Project. Austin in an essay published in the San Francisco Chronicle wrote, "how far is it well to destroy the agricultural interests of the commonwealth to the advantage of the vast aggregates of cities?"

The protest movement of 1905 basically failed for two reasons. The DWP and the business interests were one as demonstrated by William Karhl in his book *Water and Power*. Secondly, L.A. had enormous pull with the Federal government, especially President Theodore Roosevelt. As Walton notes, "If Roosevelt ever received the letter and petitions from the Owens Valley, they would have appeared poignantly trivial against the weight of political considerations favoring Los Angeles. The Owens Valley fell neatly into a groove made for it by the transformation of the state in the progressive era."

With the beginning of construction in 1908, the tensions lessened. Local people saw the aqueduct as an economic opportunity, and although local groups petitioned and negotiated to get water and land released for development, agriculture became more profitable because of the start of World War I.

With the drought of 1919 tensions began to rise again. L.A. that started pumping water, and as irrigation districts were proposed by locals, followed by elections, the City worked to repress the process, and even broke dams to collect water for the aqueduct flow. Walton reports that the purchase of land by L.A. had averaged about half a dozen tracts, ballooned in 1923 to 104 and in 1924 to 250. Citizens claimed that L.A. was following a process of checker boarding to gain control of water flow to various ranches and agricultural areas, particularly in the northern valley.

Hard times continued to grow with the local groups becoming more desperate. The LADWP worked more and more effectively against the irrigation district movement, going to court to get an injunction against the selling of bonds to build the irrigation systems voters had approved. In May of 1924 as relations became more hostile when the DWP filed suits against irrigation companies for diversion of water above the aqueduct in take, protest turned to violence. The first explosion to destroy the aqueduct occurred, encouraged in part by the florid writing that tended towards histrionics in the local newspapers.

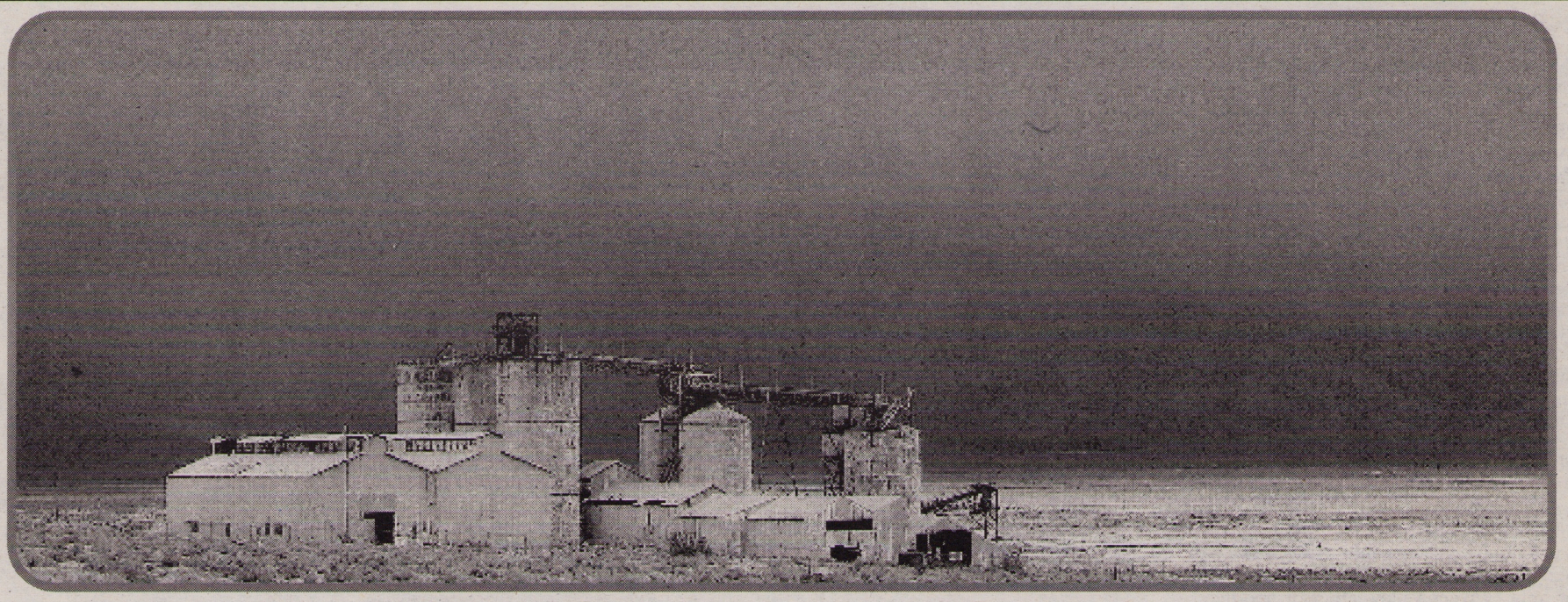
The six months of political maneuvering in the valley had basically accomplished little to resolving the conflicts. The primary motivation by local groups was not to raise the price of land bought by L.A., as claimed by historians as noted as Kevin Starr. The group had offered a choice to the City, either restore the agricultural prospects or buy all the land at a price determined by an independent commission. They favored the first alternative, but nothing happened.

On Sunday, November 16, 1924 Wilfred Watterson led 70 (the paper reported 100 at the time) men from Bishop in a caravan of model T Fords south and they took possession of the Alabama Gates spillway and control of the aqueduct without incident. Walton dramatically describes what happened next. "Among the insurgents was an engineer and former aqueduct employee recruited to open the hydraulically operated gates and remove the assorted handles and levers with which normal operations could be restored." Ever a movie place, this act was mimicked in the Roy Rogers *film Under Western Stars* in 1937, when comic sidekick Smiley Burnette opens the spillway on the dam (played by the Tinnemaha Reservoir and then "accidently" drops the turning wheel into the water. Within hours a crowd of several hundred gathered to watch the city's water supply cascade down the open spillway onto the desert floor."

The "picnic" had begun and for the next five days, the local citizensz had barbecues and by all reports a festive time, even entertained by a cowboy hero's mariarci band on leave from the set in the Alabamas.

The story continues in next month's *Territorial Review*.

"SILVER AND WATER" ART PROJECT NEARS COMPLETION



BY CHRIS LANGLEY

(This is the continuation of a personal journal on the Silver and Water Project at the PPG Plant)

6.

It was cold and dark at the PPG plant as we made our way over to the north silo to hear Maestro Douglas Lee, dressed in a tuxedo, play on his glass music instrument. We were shepherded over there by the many young folks connected with FarmLab and the Metabolic Studio. There was a feeling of camaraderie for many of the locals knew each other and had known each other for years, even decades. The artists had a wonderful open and gentle manner which helped us overcome any anxiety of why we here in this darkindustrial wasteland that had once produced product even while ravaging some of the natural resources of the valley.

Stepping into the silo, where there were lights flooding the walls, was like entering a strange land on a planet far far way, in a time long long ago. I don't know the dimensions for in the light there were an illusionary stretching and bending of the dimension about us. Disorienting, uplifting, I felt we were in an amusement park ride that was about to start. We lined up about the circle, our backs to the curved wall that had been painted white. I learned later that it had been painted white a long time ago so that the present owner could practice golf. That must have been efficacious because she went on the profession golf circuit.

We looked across at each other and in a moment the barrel ride would begin, centrifugal force holding us to the walls as the floor dropped away. Wrong. It stayed motionless, our feet solidly on the ground. As I looked up, however, instead of seeing straight walls up to the ceiling a hundred or more feet over out heads, the walls bent into a cone like shape. That was just in my mind, or my eye, or wherever this misperception is based. Later went I went out to check the walls of the building, they went strait up to the curved roof.

After we each introduced ourselves, Rochelle asked Douglas to demonstrate the sound of "Somewhere Over the Rainbow" on the glasses. The sound of your finger rubbed on the edge of the glass is otherworldly to start. For me it is best compared to sounds produced electronically by a moog synthesizer. But it is a natural sound, produced by the human element of our squeaky clean fingers rubbed against the edge. The variations of pressure were the skill and the source of the artist's element.

In the silo, the sound was echoed, reinforced and enhanced. It didn't just sound in our ears, but subtly in our bones, or feet and our imaginations. It was sonorous, even stranger, magnified and mysterious. It was most pleasant.

When Douglas finished, I knew that we had just had a very otherworldly experience in a very mundane, even industrially wasted, setting. Some were totally engaged, others made uncomfortable or left unimpressed. They would not continue to be part of the orchestra.

7.

We had talked a lot about all sorts of things: community things, historic things, and music things. When I left that night I wanted to focus my attention on more details about Farm Lab, Metabolic Studios, Lauren Bon and Rochelle Fabb. I wanted to know where they had been, what they had done and about their vision of art, our world and the interaction between the two. I wanted context and there was lot of that on the Internet and from handouts they provided.

8.

My search to understand "social sculpture" quickly led me to a German artist who came to real prominence in the 1960's. I had lived through the Sixties as a socially flexible even briefly revolutionary time. I remembered the Sixties and as the saying went, "If you remember the Sixties, you weren't there." I was in the Peace Corps after graduating from college in 1966 and for the next two years lived in Iran and traveled in Asia. By the time I got back to the U.S., it was a different country and I had been changed by being immersed in an Islamic culture and society. I had missed living through two rather tumultuous years in my country.

While many of my ideas had been changed from my original middle class upbringing, my life arc was in the opposite direction to family man, husband, father, and wage earner.

At the time Joseph Beuys was challenging the very foundations of what art was and the role of the artist. His life (1921-1986) was on a very different track and I am sure I would have been antagonized by his work had I confronted it. On the Internet I read "Indebted to Romantic writers such as Novalis and Schiller, Beuys was motivated by a utopian belief in the power of universal human creativity and was confident in the potential of art to bring about revolutionary change. This translated into Beuys's formulation of the concept of Social Sculpture; in which society as a whole was to be regarded as one great work of art (the Wagnerian *Gesamtkunstwerk*) to which each person can contribute creatively (perhaps Beuys's most famous phrase, borrowed from Novalis is "Everyone is an artist.'")

This particular quote from Beuys connected my experience with art theory and with history. ***"Only on condition of a radical widening of definitions will it be possible for art and activities related to art [to] provide evidence that art is now the only evolutionary-revolutionary power. Only art is capable of dismantling the repressive effects of a senile social system that continues to totter along the deathline: to dismantle in order to build 'A SOCIAL ORGANISM AS A WORK OF ART'...EVERY HUAN BEING IS AN ARTIST who...from his state of freedom—-the position of freedom that he experiences as first hand-learns to determine the other positions of the TOTAL WORK OF THE FUTURE SOCIAL ORDER."***

When Beuys came to American with startling art installation/performances at the Guggenheim in New York City, American critiques were often vitriolic with one writer calling his ideas "simple-minded utopian drivel."

9.

Much more can be explored with Beuys life and artistic career but already I was experiencing my ideas about art being radically expanded. Fast forward through several decades to understand how Lauren Bon and FarmLab fit into this.

In one of the brochures that we were welcome to pick up at our rehearsals, some more of the work was described and the roots of FarmLab explained.

"FarmLab, a project by artist Lauren Bon that is 'committed to the preservation and perpetuity of living things,' was born out of a pair of now-gone large scale urban Los Angeles ecologies: *Not A Cornfield* and the South Central Farm (SCF)."

"Not A Cornfield (2005-2006) was an action by Bon that took place of 32 acres of land between Chinatown and Lincoln Heights. The work—among many others-redeemed the lost fertility of the earth and transformed what was left from the industrial era into a renewed space for public gathering."

"The SCF (1992-2006) was A 23 acre community garden, a rare verdant swatch in South Los Angeles. The site's landowner, and representatives of the 330 family farmers who had cultivated the land were long at odds about the future of the acreage."

The process of dealing with the future of the SCF led Bon to gather a multi-disciplinarian team of artists, writers, designers, agriculturists, planners, and laborers to work with her.

10.

Even as our group continued to meet to form a cohesive social unit at the PPG plant, I knew I needed to visit FarmLab to see this ongoing process in action. Rochelle Fabb and many of this team were very open and excited to show me their work and their place.

(Next time our group gets to know the many moods of the PPG plant to the point where it becomes the Tinman from The Wizard of Oz to us and I visit the L.A. site where much of the work is undertaken.)

LETTERS TO THE EDITOR

6-9-2015

Governor could save California from drought

(The following letter was sent to Gov. Jerry Brown, with a copy forwarded to The Inyo Register *for publication. -Ed.)*

Dear Mr. Governor,

Hello Sir. My name is Michelle Randolph Whitford. I live in the beautiful Owens Valley which is in Inyo County, here in this great state of California. I have lived here all of my life. I just turned 50 on March 20. I am writing you because I do not how to make this happen without you. Please read my letter and think about what I have to say.

In the early days of the Owens Valley, the City of Los Angles came up to the Owens Valley and bought almost all of the water rights so that they could ship our water down to their growing city. They built an aqueduct to get the water from the Owens Valley to their city. In 1913 the city of Los Angles started diverting the river and the streams that fed the Owens Lake. The water levels in the lake quickly started to drop. The lake dried up. This is a huge lake. It is about 17 miles long and 10 to 13 miles wide. It was also about 20 to 50 feet deep. The Sierra Nevada mountains (the tallest mountains in the continental United States) to the West of the lake and the Inyo/White Mountain range (the second highest mountains in the continental United States) to the east of the lake depended on that lake for the moisture that they needed to produce snow and rain (just like the Great Lakes - look how much snow that area gets every year).

I am confident that you, Sir, know about our valley, the Department of Water and Power (DWP), and the Owens Dry Lake (now a dust bowl, air polluter.) Sir, since DWP was allowed to come up here and strip this land of its water, drying up the lake that gave the mountains the moisture they needed to make the rain and snow, creating the first one of the biggest man-made disasters ever, then why not hold the DWP, along with the city of Los Angles responsible for the drought that California is now facing? I know in my heart that when the Owens Lake had its water in it that was the reason the mountains got so much snow, back in the day - why California never had to worry about running out of water and massive droughts like we are now facing.

The Sierra are dying, Sir. Soon we will have two "Death Valleys" in California. The Owens Lake, even when it has water in it, is a dead lake because of all the alkali and other "agents" in it. It is the result of greed along with obviously a total lack of any kind of thought or care about the impacts on the future of the Owens Valley, and how draining the lake would be the worst decision that could have ever been made. How did they not see that the Owens Lake and the two massive mountain ranges were working together to create the conditions that created all of the snow and rain coming down from the mountains that created the lake in the first place? Why was DWP allowed to dry up our lake? Our lake was not for sale.

Sir, the answer to the drought in California is to get water back into the Owens Lake. The DWP, along with the city of Los Angles should have to build an aqueduct from the ocean and fill the Owens Lake up with salt water. It would get the moisture back in the air. The Sierra would once again have some place to grab moisture from to make rain and snow. DWP would be happy because they would be able to get their water from here without having to look elsewhere for the next "section of this world to destroy." I know the technology is there. They build pipelines for shipping oil that are way longer than the Owens Lake to the ocean. Sir, please research this. Please be the person from the government that finally says "enough is enough." Make the DWP responsible for their actions.

It feels like the end of the world is almost upon us up here in the Owens Valley. There is a chance that our creeks coming out of the Sierra will dry up by the end of summer. That is a tragedy. DWP should have never been allowed to dry up that lake in the first place.

Sir, if nothing changes, then nothing will change. Please do this for our state. It is a positive, real step that shows our country "wrongs done to our earth at the hands of man will no longer be tolerated and ignored," and "we all need to realize just how much damage has already been done." We are quickly running out of water here in California. I know you know better than I do just how bad it is. Here is our solution, Sir. If California is going to survive and prosper, this is a great place to start. It cannot continue to be about the almighty dollar anymore. Running out of water is unacceptable. Please Sir, draw that line in the sand and save us.

Michelle Randolph Whitford
Owens Valley

Letters to the Editor

4-4-2013

First they drained the lake, now they want to pump out what's left

There is a lot that could be said about *The Inyo Register's* article of March 30, 2013, concerning the Los Angeles Department of Water and Power's (DWP's) backing out of the Owens Lake Master Plan. I'd like to comment on one component the DWP hopes to save: the Habitat Subcommittee. LADWP wants them to assist with development of a plan to pump in the vicinity of Owens Lake.

DWP finds it unbearable that good, clean water is "wasted" by being diverted out of their aqueduct and allowed to flow onto Owens Lake bed. However, if put in proper perspective, the amount DWP now spreads on the lake is a fraction of the same water that formerly flowed naturally into the lake to sustain a vast and productive ecosystem.

To stop the "waste" of water, DWP proposes to pump groundwater from underneath and/or near the lake bed and use the pumped water to control dust on the dry lake surface they created. Any amount supplied from lake-area pumping means less water diverted from their aqueduct, and thus more water flowing to L.A.

Consultants hired by DWP recently completed a thorough and expensive analysis of lake-area pumping. It's called the Owens Lake Groundwater Evaluation Plan (OLGEP). An update on the OLGEP was provided by county staff at a recent Inyo County Water Commission meeting.

Not surprisingly, overall results of the OLGEP are the same as consultants found 14 years ago when DWP paid for a similar investigation. The results? There is no extra water near or under the lake. Virtually any pumping that occurs under or near the lake bed will cause aquifer depletion from north of Lone Pine to about Haiwee Reservoir (a distance of 35 miles north-to-south, and up to 13 miles west-to-east). This means that, if implemented, water levels will drop in people's domestic wells and wetlands, springs and seeps in the area will diminish and probably eventually dry up, and groundwater-dependent vegetation will suffer. Another likely result: subsidence.

If the consultants' recommended plan is implemented, changes will be apparent after 10 years of pumping 8,800 acre-feet per year. Considering the size of the Owens Lake sub-basin, and relative to DWP's other Owens Valley wellfields, this is a small amount of annual pumping. Because the sub-basin is already depleted and has little recharge (DWP already takes most of it), as the years go by, desiccation and devastation is inevitable. I can't erase the horrifying image that this pumping is like sucking the blood out of a dead body.

Watching environmental groups, government leaders and agency personnel grapple with the meaning of these results has been interesting. It is as though the lake bed pumping was sold to them as a hopeful solution to many problems. They appear to be having a difficult time digesting the finding that more problems could be created by allowing the pumping to proceed. Places that are not dusty now would undoubtedly become dust sources once spring flows and groundwater levels recede due to pumping. If the parties collectively agree that at least some pumping is acceptable, who would be responsible for the new impacts it creates?

DWP is proceeding to the next phase. They have changed the acronym to OLGDP, with the D standing for Development, and they are commencing about three years of studies, which includes well drilling and pumping. Has anyone told them to drop this pernicious plan?

Sally Manning
Bishop

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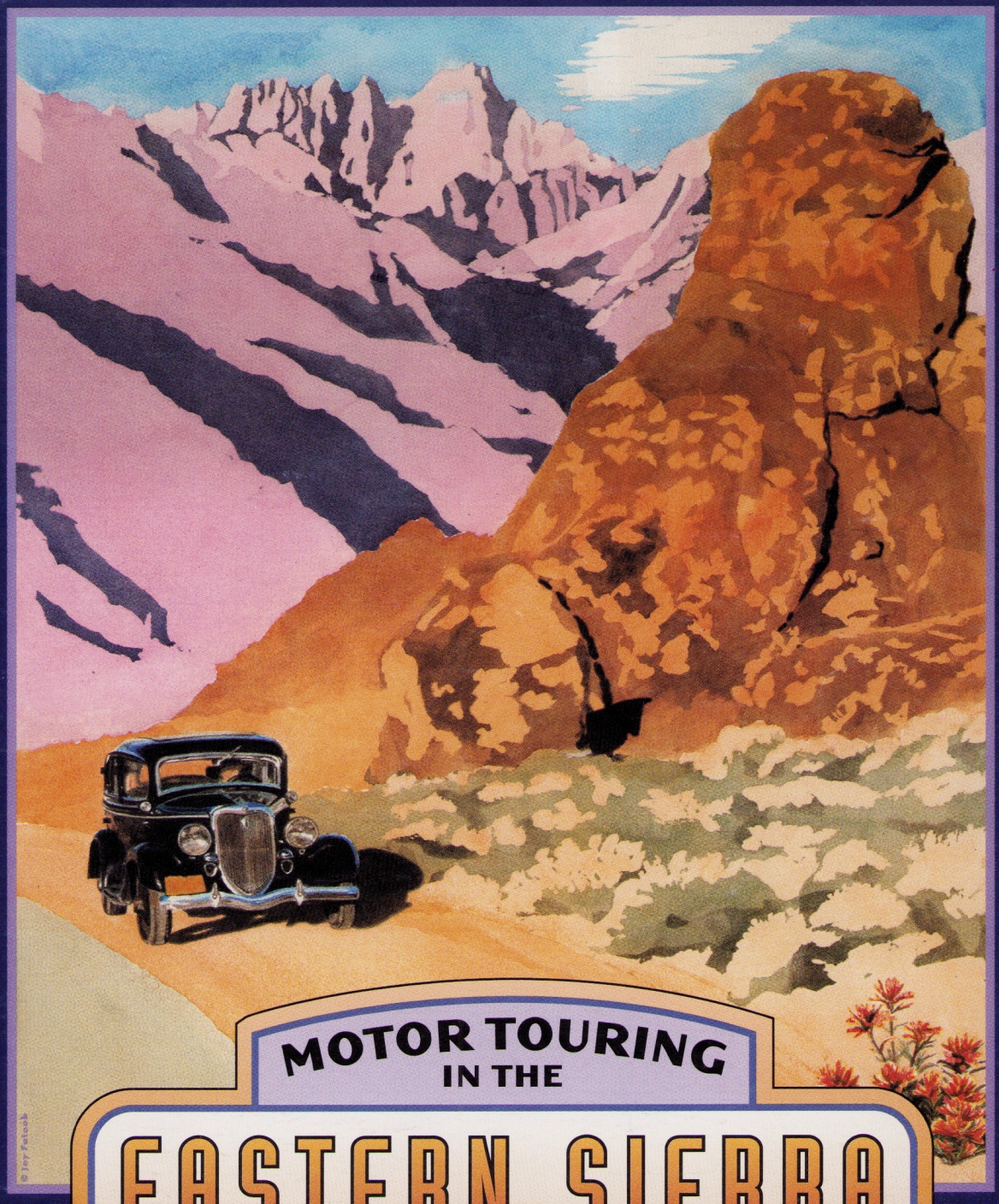
www.jenniferlittle.net
Cell 209.406.4952

OWENS LAKE

Owens Lake lies in Southern California's Eastern Sierra. This 108-square-mile lake dried up in 1913 when the City of Los Angeles diverted the Owens River into the Los Angeles Aqueduct. The new water supply allowed Los Angeles to continue growing and turned the arid San Fernando Valley into an agricultural oasis, but at a tremendous environmental cost. Today, Owens Lake is a dry alkali flat, and its dust is the largest source of coarse-particle air pollution in the Western Hemisphere.

In 1998, the EPA mandated that the Los Angeles Department of Power and Water (LADWP) take steps to minimize this pollution. LADWP began construction on the *Owens Lake Dust Mitigation Project* in 2000. They have installed more than 27 square miles of shallow flood zones, 55 pump stations, and 6666 irrigation bubblers to partially flood the dry lakebed. This cost billions of dollars and requires so much water that it may not be sustainable as climate change results in a drier climate for California, which is currently experiencing the worst drought in recorded history.

Inyo County, California • Sport Utility Vehicle Routes



MOTOR TOURING IN THE EASTERN SIERRA

COURTESY U.S. FOREST SERVICE

FRONT COVER: A 1934 Ford Model 40 traveling the back roads of the Alabama Hills
ILLUSTRATION BY JOY FATOOH

DONATIONS ACCEPTED

AN OPEN LETTER TO MARCIE EDWARDS, GM OF LA DWP

A PROPOSAL TO FULLY REWATER LORP, FULLY STOP THE DUST ON OWENS LAKE, AND CREATE TWO OF THE LARGEST LAKES IN CALIFORNIA ON THE LA AQUEDUCT SYSTEM IN THE OWENS VALLEY - PART 1/3

By Harvery Wills

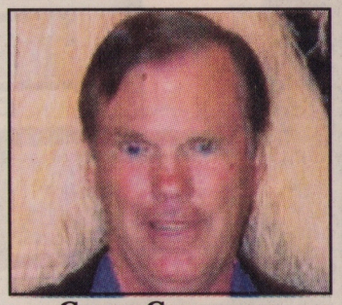
Dear Ms. Edwards,
August 23, 2015

Two thousand years ago Owens Lake flowed out of its south end down through Haiwee Meadows Canyon continuing down through Little Lake ending up in Death Valley. Studies show the lake was about 210 feet deep at that time, and the water was 99% fresh. Owens Lake became the way it is today when water stopped flowing out of it allowing chemicals and alkalies to build up as the water flowing into the lake became less and less.

The present dust control program on Owens Lake is a never ending, multi-billion dollar, money-pit project, and an absolute waste of money. Owens Lake is not a dry lake because if it was the dust coming off of the lake would be minimal. It has internal springs which keep just enough water on the lake bed to keep bringing up alkali particulate and when the wet areas dry out, the dust is there ready to be blown aloft by frequent winds in the Valley. Under its present state, shallow evaporating water is the lake's greatest enemy. The DWP was pumping some 57,000 acre feet (AF) of water on that lake bed surface every year. If they don't keep adding water to the same areas "forever", they will compound the dust problem. Dust control this way is a waste of time, energy, money, and water!

Had the present dust control program on the lake been as far along as it is now before the triple winter of 1968-1969, all that work and the $1.1 billion spent on it would have been down the drain because the lake was 7 feet deep in water from runoff and heavy 1969 summer thunderstorms. The evaporating water made the dust storms worse. There is no future in the present method of dust control on the lake. Owens Lake either needs absolutely no water or a lot of water to stop the dust. Sealing the lake bed surface would be

TOP OF THE MORNING



GUEST COLUMNIST

nice, but when dealing with 120 square miles of surface area, just a 1 foot layer of compacted dirt on the lake bed would cost almost $2 billion. Much of the minerals and chemicals in Owens Lake got there via the Owens River from mountain and Valley runoff plus from the surrounding areas of the lake. Most of this runoff material ended up in the lake wherever the river or the surrounding water influx deposited it so it is not evenly deposited on the lake bed. Few records exist as to how thick this chemical layer is on the lake bed. One report around 1930 stated that it contained 122 million cubic yards of soda ash, but that was probably somebody's rough guess. That is only one foot thick over 120 square miles.

According to Federal Government sources Owens Lake is the number one air pollution problem in the U.S., and if so, how come a few billion dollars of Super Fund cleanup money isn't available to help fix the problem? A lot of credit for the dust problem can go to Mother Nature, Valley Farmers in the late 1800's and then lastly DWP, but DWP's short-sighted Aqueduct System design contributed even more immensely to the dust problem.

I have a proposal where the Owens Lake bed chemicals can be expunged and sealed with fresh flowing water into and out of the lake to not only stop the dust, but to make Owens Lake a freshwater lake again as part of the Aqueduct System. The secret is letting fresh water flow through the lake like it did 2,000 years ago. It has to be in sufficient quantities to dilute and flush out the chemicals in the lake, (not into the aqueduct system), but into a much larger lake below it first. The ultimate goal would be to get the entire Owens River to flow through the lake. In drought cycles like now, this presents a more difficult task.

In presenting my proposal on how the Aqueduct System should have been designed, to not only benefit LA even more, but also the Owens River Valley as well, I will go over the proposal in steps. When studying the proposal, just remember that when the Isabella Dam and lake project were completed in 1953 the entire towns of Isabella and Kernville and two highways plus power lines had to be moved to make way for the new dam and lake. China's new Three Gorges Dam and Hydro-Electric Project, which dammed up the Yangtze River, had to move over 1,000 towns and villages and displaced 1.3 million people hundreds of miles away in the process. This project was the largest of its kind ever in the world. It cost $24 billion which I think was a bargain for the size of the project. This proposal is nowhere near that scope, size, or cost of that project, but a few things do have to be removed or moved in this proposal.

I can hear the Naysayer's and the Eternal Pessimist saying that no proposal can be done; and every environmentalist in the country will be trying their damnedest to stop any proposed idea. The problems of the dust are enormous, and logical workable solutions are few and far between. Large storage capacity lakes are needed in the Valley for future droughts and to help increase the chances for wetter years. A few changes to the Aqueduct System in the Southern Owens Valley can make a vast improvement on receiving and storing more water and getting more precipitation every year. To be continued.

(Today's Top of Morning is written by Harvey Wills. Mr. Wills is a native of Owens Valley, and his family were pioneers who homesteaded in the Valley. Mr. Wills is a retired employee of the DWP and former high school and college teacher, and has been retired 17 years. He currently has lived in Bishop for the last 35 years with his wife of 50 years, Nancy. In addition to enjoying retirement, and Bible study, he and his wife have been involved in real estate development for the last 26 years on Flathead Lake in Northwest Montana)

AN OPEN LETTER TO MARCIE EDWARDS, GM OF LA DWP

A PROPOSAL TO FULLY REWATER LORP, FULLY STOP THE DUST ON OWENS LAKE, AND CREATE TWO OF THE LARGEST LAKES IN CALIFORNIA ON THE LA AQUEDUCT SYSTEM IN THE OWENS VALLEY - PART 2/3

By Harvey Wills

Dear Ms. Edwards,
August 23, 2015

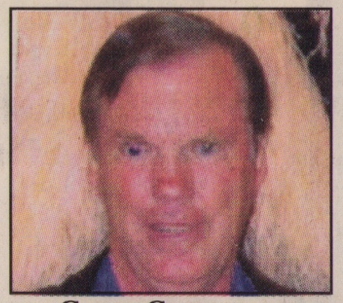
Most people can see that the DWP's original plan for their Aqueduct System, to take water from the Owens Valley, only had the City of Los Angeles in mind. DWP's design showed their total disdain for the Valley's ecology. Had the system design been thought through more with some Owens Lake and Valley benefits in mind, the issue of the Owens River being dried up, and the dust problem on Owens Lake would have never come up, plus DWP could have gotten several added bonuses. DWP's Mono Basin Aqueduct Extension and Second Aqueduct just added insult to their first injury. Local farmers in the Valley had been diverting 290,000 acre feet (AF) of water a year from Owens Lake and had left it only 30 feet deep at the time of the DWP land acquisitions in the Valley. By 1924, the DWP had pretty much dried the rest of the lake up.

One of the biggest problems with the present Aqueduct System is its small water storage capacity. Water received during wet years needs to be stored for dry years. Science shows that more water begets more and more water plus you get "Lake Effect" with storms over large lakes! The Aqueduct from its Intake down to Little Lake should have never been built. This would have eliminated 67 miles of the present aqueduct. DWP, like us, is stuck with the overall design, but I am hoping to get DWP and others to see that the Southern Owens Valley part of the original design can be modified for the benefit of LA and the Owens Valley alike.

The proposal

Picture the Owens River flowing full all the way down into Owens Lake and filling it up to a depth of 75-100 feet creating a 2.5-3 million AF fresh water lake that would be the fourth largest lake in California by volume behind Shasta Lake. Then picture the water flowing out of Owens Lake south down through Haiwee Meadows Canyon where the two present DWP Haiwee Reservoirs are sitting on top, and then picture this river continuing to flow south into Rose Valley, the sub-valley of the Southern end of the Owens Valley. At Little Lake where the southern end of Rose Valley ends, picture this river being backed up behind a 515-foot-high dam that impounds a lake in Rose Valley with a water depth of 475-500 feet at the dam creating a water storage capacity of 7.7 million plus AF, making it the second largest lake by volume in California. Also picture a good size hydro-electric system below the dam and the water being returned to the two present LA aqueducts. This second lake is required in order to further dilute and deal with the chemicals of Owens Lake until that lake is flushed clean. This lake is also required to put water back into the original aqueduct.

TOP OF THE MORNING



GUEST COLUMNIST

Resupplying water to the first original aqueduct will determine the minimum height of this dam at Little Lake. A lake surface elevation of at least 3625 feet or higher would be desired in order to put a hydro-turbine generation system on the first aqueduct. The Second Aqueduct at this location is near the bottom of the proposed lake which is a lot more desirable for hydro power generation and can also be used to lower the reservoir level. The Rose Valley dam would not only back up the waters of Rose Valley, but also the waters in Haiwee Meadows Canyon and Owens Lake, making it in reality one huge 10.7 million AF continuous lake with about 100 miles of shoreline. With the Rose Valley Lake at a surface elevation of 3625 feet, Owens Lake would be 75 feet deep. The lake could be made to be 100 feet deep, but that would require small levees at Cartago, Olancha, and along Highway 190 out to Dirty Sock, and at Keeler and Swansea.

The effective bonuses and negatives

LA gets the benefits of enormous water storage capacity (10.7 million AF) with the capability of wet year surplus water being stored for dry years and a bonus of a larger hydro-electric complex. Owens Valley gets two very large recreational lakes that are huge tourist attractions with boating, fishing, camping, and bird watching. The Valley gets the entire Owens River with the full flow of water that is available in any one year plus it gets a lot of its southern underground aquifers recharged with the southern Valley greening up. The major dust problem of Owens Lake is also solved. Most of the waters would still flow south in the present aqueducts with the exception of about 20 percent that is put into Owens Lake to stop the dust pollution, and to start filling the lake for the new Aqueduct System. The Owens River would need to be extended from the south end of the lake to the north end of North Haiwee Reservoir with a dyke and gate control structure on this river in order to be able to excavate a continuing river channel in Haiwee Meadows Canyon. A bypass canal would have to be built around North Haiwee Reservoir so when that reservoir is taken out of service, the aqueduct could continue to function southward. To continue the river channel, the South Haiwee Reservoir would also be taken out of service. It would take 21 years to fill both lakes if 500,000 AF a year normal winter amount was put into both lakes. A few wet winters could speed this process up and dry years would do just the opposite. I like to call the new lake "Rose Valley Lake" and the dam "Rose Valley Dam." The entire cost of the total project would be in the neighborhood of $3.5 to $4.5 billion, but that is a rough estimate, and not based on a final design. To be continued.

(Harvey Wills is a native of Owens Valley, and his family were pioneers who homesteaded in the Valley. Wills is a retired employee of the DWP and former high school and college teacher, and has been retired 17 years. He currently has lived in Bishop for the last 35 years with his wife of 50 years, Nancy. In addition to enjoying retirement, and Bible study, he and his wife have been involved in real estate development for the last 26 years on Flathead Lake in Northwest Montana).

AN OPEN LETTER TO MARCIE EDWARDS, GM OF LA DWP

A PROPOSAL TO FULLY REWATER LORP, FULLY STOP THE DUST ON OWENS LAKE, AND CREATE TWO OF THE LARGEST LAKES IN CALIFORNIA ON THE LA AQUEDUCT SYSTEM IN THE OWENS VALLEY - PART 3/3

By Harvery Wills

Dear Ms. Edwards,
August 23, 2015

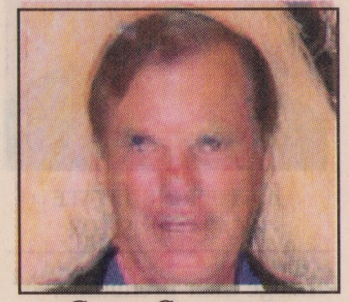
People are going to ask questions like: "But what about the Coso Junction Rest Area, Highway 395, and the electrical transmission lines that now run in Rose Valley? What about the Coso Geo Thermal Water Supply from the Hay Ranch in Rose Valley? Isn't the fresh water impounded in Owens Lake going to be contaminated by the lake chemicals and alkali?" I am sure there will be thousands of more questions like these, but I am trying to solve and find real solutions for the Lower Owens River, Owens Lake, and getting some large amounts of water storage capacity in the Owens Valley for dry years and also increase the Sierras and Valley chances for more precipitation. This isn't a perfect proposal, but take a determined look at what there is to work with. It is what it is!

DWP should have laid out their original plan like this in the first place, but they fully under estimated future growth in LA and thus future water needs; and they left the Owens Valley totally out of their equation. All I have seen in this Valley for 70 years is people fighting with no solutions to anything except more fighting. We need to all work together toward a common goal.

Highway 395 would be taken to the east side of the new lake crossing over at Merritt Cut. The transmission lines would be rerouted to follow along the highway which would also be rerouted to the east side of the new Rose Valley Dam and then brought back into existing U.S. 395 somewhere south of Little Lake. Coso Geo Thermal aquifers would be recharged, and at 75 feet deep, Owens Lake waters would exert 4,700 PSF on the lake bottom chemicals sealing them.

With Rose Valley Lake being such an enormous lake, human contamination would be minimal so camping, boating, fishing, and other recreational activities would be a big boom to the southern Owens Valley economy. Old businesses could relocate and new ones would start. I envision several campgrounds

TOP OF THE MORNING



GUEST COLUMNIST

and/or RV Parks around both new lakes or nearby. The Southern Owens Valley could become larger in population than the northern part of the Valley.

After the Rose Valley Dam and hydro-electric complex is completed, impounded waters of Owens Lake would be allowed to flow south through the new river bed channel of Haiwee Meadows Canyon into Rose Valley Lake bed. Water would also continue to flow down the aqueducts to LA. The water would be distributed between the old aqueducts and the new lakes depending on the yearly runoff available. As the Rose Valley Lake fills high enough, water can be put back into the Second Aqueduct and this would allow a greater percentage of the Owens River to flow into Owens Lake. Any contaminating chemicals in Owens Lake would be highly diluted with so much water in the lake plus once this water flows through Haiwee Meadows Canyon into Rose Valley, much of the chemicals will settle out and some will evaporate. With Owens Lake being at 2.5 to 3 million AF and Rose Valley at 7.7 million plus AF when full, that huge amount of fresh water will simply overwhelm those chemicals and dilute them down to a mere trace if any. At the worst, maybe Owens Lake water will have to be temporarily filtered for a year or two. DWP already has a $1 billion water filtering facility at Sylmar.

DWP is going to have to give up some water exportation in the early years of this proposal in order to recoup more water in later years. When the two lakes are nearly filled, long drought cycles can be overcome. With the Owens River reestablished early in this plan, south Valley aquifers will be recharged, and the southern Valley will come back to life again. The downside of the entire proposal and plan are costs, time to plan and design, land and other permits and possible legal suits, and the actual implementation of the project including funds to build it. This would need to be a DWP led plan involving the Feds, State, and County with everyone getting behind the total project. If 20 percent of the Owens River flow was allowed to flow into Owens Lake at the north end after the plan's approval, the dust problem would be solved quickly, and those unending money pit funds being spent now on the dust control could be diverted over to this proposal and project. I still think Super Fund cleanup monies should apply to this proposal which would solve the nation's number one air pollution problem.

I am sure that better minds than mine will pick this proposal to pieces, and like politicians, all most people do is talk about problems, but never offer any actual solutions. At least this is actually one possible solution that will work with lots of benefits for everyone involved including LA, and everyone living in the Owens Valley! Having lived at our Sage Flat Homestead, Cartago, Olancha, Lone Pine and Independence in the 1940s - '70s and now in Bishop since 1980, and being an Owens Valley native over some 70+ years, I have had occasions to talk to people who built the original aqueduct and also with people who lived in this Valley in the late 1800's. I have a rich history of the Valley and DWP.

So before we are all too quick to condemn the proposal, think on its merits and possibilities of it first rather than dwelling on the few negatives. It took me decades to arrive at this solution, conclusion, and proposal. All the other alternatives just don't work. The DWP can continue to pour another $1.1 billion into the Owens Lake dust money pit, but when the first really wet winter comes along they can kiss $2.2 billion good bye! That $2.2 billion would have built over half of this proposal! . To be continued.

(Harvey Wills is a native of Owens Valley, and his family were pioneers who home-steaded in the Valley. Wills is a retired employee of the DWP and former high school and college teacher, and has been retired 17 years. He currently has lived in Bishop for the last 35 years with his wife of 50 years, Nancy. In addition to enjoying retirement, and Bible study, he and his wife have been involved in real estate development for the last 26 years on Flathead Lake in Northwest Montana)

File photo

Located off of Highway 136 towards Death Valley, the Owens Lake Trails area is an oasis of art and wildlife on a no longer dry lake.

On the wings of snowy plover

Owens Lake Trails offer unique bird watching experience

By Kristina Blüm

Owens Lake was lifeless. Sucked dry by the siphoning of the Owens River, its main inlet, into the Los Angeles Aqueduct in the 1920s, the dry lake would throw massive clouds of dust into the Eastern Sierra sky as if lamenting its desolation. It became one of the most dangerous air polluters in North America.

Yet in this dusty place, defying the odds and surviving the impossible conditions, was the snowy plover, a bird now held in reverence by crews who work on the dry lakebed. It made its nests, raised its young and remained at Owens Lake.

In the 1990s, the Inyo County/LA Long-Term Water Agreement forced the Los Angeles Department of Water and Power to right the wrong it had committed in drying the lake. The agency began working to control the dust emission from the lake by planting salt grass and dumping millions of gallons of water back into the lake. Costing LADWP more than $1 billion, the Owens Lake is the largest dust-control project in the country with 48.6 square miles of dust-control measures eliminating 96 percent of the dust once emanated by the lake.

Photo by Robin Black

The shade structure surrounding the Owens Lake Trails plaza has carvings of birds in flight, covering the ground in patches of sun.

Dust control was LADWP's number one priority on the lake. However as the water returned, it brought an unexpected return of birds to the lake. Thousands of birds flocked to the new ponds and wetlands.

"I once said, 'we are not here to create a bird sanctuary,' as part of the massive Owens Lake Dust Control Project," Richard Harasick, director of water operations for LADWP, said. "But a funny thing happened on the way to dust control. We created a world class bird habitat on the lake almost inadvertently."

LADWP added "maintain habitat" to its checklist for the dry lake, and the Owens Lake Trails project was born.

Three major public access points were added to the lakebed, including four miles of trails converging on a central plaza designed by Perry Cardoza, who turned to the landscape itself for inspiration. And the one thing that stood out the most to him was the snowy plover.

"We chose the snowy plover because it is endangered, but also because it is a bit mysterious," Cardoza said. "People search for it for years but never see it. One day, while we were at the lake, we saw one and I knew that we needed to celebrate it. They are such beautiful birds."

The plaza is shaped like the nest of a Snowy Plover, with spires representing its wings raised into the sky. The roof of the plaza is carved with images of birds in flight, allowing sunlight to flicker unto the ground below. In the center of the plaza is a circular area of rocks meant to represent the snowy plover's eggs.

Surrounding the plaza are gently sloping hills, reminiscent of the white capped waves that once covered Owens Lake. These hills were inspired by an old black-and-white picture of the lake.

"White caps are part of the history of this place," Cardoza said. "We needed to memorialize that and capture the strength and power of the waves. That is how the whitecap sculptures came about. It's so surreal, to see it from a distance, they have a very poetic feel about them."

The trails meander through a complex landscape of ponds and marshes where migratory birds and waterfowl rest.

"Our goal was to create an environment where people would want to stay and visit," Cardoza said. "Our goal was to create a habitat for the birds while providing dust control."

It began as dust control on a tragic dry lake, but Owens Lake now teams with life as the snowy plover and other birds continue to call the Owens Lake home.

For a brochure and map to the Owens Lake Trails, visit the Interagency Visitor Center on Highway 136 just south of Lone Pine.

Photographs by DON KELSEN Los Angeles Times

TED SCHADE is air pollution control officer in the 110-mile-long Owens Valley. He has forced the Los Angeles Department of Water and Power to quell dust storms rising off the dry bed of Owens Lake, which L.A. drained to slake its thirst.

Man versus a metropolis

An Owens Valley air district official demands that L.A. reduce dust storms more than it has. The city responds by taking him and the agency to court.

10-28-2012 L.A. Times

BY LOUIS SAHAGUN

As a boy, Ted Schade couldn't get enough of old westerns with heroes standing alone in defense of towns that wouldn't stand up for themselves.

Now a 55-year-old man, Schade believes he is experiencing his own version of "High Noon."

As air pollution control officer in the 110-mile-long Owens Valley, Schade has forced the Los Angeles Department of Water and Power to quell dust storms rising off the dry bed of Owens Lake, which L.A. drained to slake its thirst. Now the powerful utility is going after Schade.

The DWP filed a lawsuit in U.S. District Court in Fresno earlier this month accusing the Great Basin Unified Air Pollution Control District and Schade of issuing unreasonable and unlawful orders. The DWP argues that its ratepayers have already spent $1.2 billion for vegetation, gravel and flooding of Owens Lake that have reduced dust pollution by 90% — yet Schade wants more.

The lawsuit doesn't name Schade as a defendant, but it accuses him of bias and asks that he be barred from presiding over future decisions affecting the city. DWP General Manager Ron Nichols said in a statement that "our water consumers will no longer be victimized by an unaccountable regulator."

The Los Angeles City Council, with the support of Mayor Antonio Villa- [See Owens, A38]

NIK BARBIERI, left, and Schade inspect a dust-monitoring site, one of nine such stations in the Owens Valley area.

[**Owens,** from A37]
raigosa, is expected to vote on a resolution endorsing the lawsuit. The Los Angeles Area Chamber of Commerce, the Central City Assn. of Los Angeles and the Valley Industry & Commerce Assn. took out a full page ad in the Los Angeles Times applauding the lawsuit. The ad said that other parties who share responsibility for the dust conditions are being given a free ride by Schade because "L.A. consumers are right where he wants them, like 'a fish on a hook.' "

Schade uttered the "fish on a hook" comment about the DWP during a 2009 Great Basin board meeting. He said the quote was taken out of context.

The attacks have left Schade in a position he didn't expect — abandoned by many Owens Valley community leaders and environmental activists. In a place where L.A. owns most of the land and water and has a grip on the region's economic stability, few people were willing to comment about the man whose career is on the line.

"It seems like everyone has a reason for staying out of it," Schade said.

His wife, Lisa, executive officer of the I Care animal shelter in Bishop, compares her husband's plight to that of "High Noon" frontier marshal Gary Cooper, a man of high principles and few words who must face enemies alone. "When she brings that stuff up," Schade said, "I just say, 'yep.' "

Actually, not everyone is staying out of the fight. Great Basin board chairman and Mono County supervisor Larry Johnston described Schade as "our guy" and said "we support him." Mark Bagley, executive director of the Owens Valley Committee, said, "Ted has a reputation for being a straight shooter."

Photographs by DON KELSEN Los Angeles Times

THE LOS ANGELES Department of Water and Power argues that its ratepayers have already spent $1.2 billion for vegetation, gravel and flooding of Owens Lake that have reduced dust pollution by 90% .

Los Angeles Times

Also in Schade's corner is S. David Freeman, who was general manager of the DWP in 1997 when it struck the first of two agreements with Great Basin to combat the powder-fine dust.

"Ted is simply a bureaucrat enforcing the law," Freeman said. "Ever heard of a polluter who didn't claim a regulator was biased?"

The valley has been the focal point of a historic feud since city officials quietly bought up ranch land and accompanying water rights 99 years ago, then built an aqueduct that sent Owens Valley water cascading 200 miles south to Los Angeles.

Schade, a soft-spoken civil engineer with a lifelong interest in California water issues, has been monitoring air pollution at Owens Lake since he joined Great Basin in 1990. Today, the lake bed bristles with air pollution monitoring devices and video cameras that help him chronicle the dust storms that kick up each year starting in late October.

In his view, the DWP's diversions transformed Owens Lake into the largest source of powder-fine dust pollution in the United States. Particulate air emissions of 10 microns or less, which are regulated by state and federal laws, lodge deep in the lungs, causing respiratory injuries. Dust storms exceeded federal health standards on 42 days over the past year, he said.

"Owens Lake dust emissions were more than 100 times the standard and, in order to meet clean air requirements, dust must be reduced by 99 percent," he wrote this week in response to the L.A. Chamber of Commerce. "The dust levels are 10 times lower than they were 15 years ago, but they are still 10 times too high."

The lawsuit aims to reduce the DWP's responsibilities under the dust control agreements. The utility argues that the pacts contain flaws that set the stage for problems, including waste of vast amounts of DWP water to control dust. The DWP has spread 95,000 acre-feet of water annually on the lake bed — more water than is consumed each year by San Francisco, the lawsuit said.

> 'The dust levels are 10 times lower than they were 15 years ago, but they are still 10 times too high.'
>
> — TED SCHADE, air pollution control officer in the Owens Valley

The utility also argues that its responsibility is limited because "much of this dust is naturally occurring," and says it has discovered that the lake was smaller in 1913 — when the aqueduct began taking water south — than the size both sides assumed and outlined in the agreements.

The DWP claims that it is responsible for dust arising only from the roughly 42 square miles of the lake bed exposed since 1913. The utility says the State Lands Commission and the U.S. Bureau of Land Management should be responsible for the remaining 10 square miles of the area.

The lawsuit was triggered by Schade's recent order that the DWP eliminate dust on an additional 2.9 miles of lake bed, a job the utility says could cost DWP ratepayers as much as $400 million.

Schade said L.A. misses the point. "I'm just a cop and Los Angeles is violating air pollution laws in Owens Valley," he said. "If the laws get changed, I'll enforce those laws too."

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WEEKEND NOVEMBER 24 & 25, 2012

State board rules LADWP needs to continue dust control

City of L.A.'s separate, federal lawsuit against Great Basin still pending

By Mike Gervais
Register Staff

The California State Air Resources Board ruled Monday that the LADWP is required to continue dust control measures on Owens Lake (above) that are identified by Great Basin. The LADWP is hoping to put a stop to new dust control demands through a lawsuit filed in federal court earlier this year. Photo courtesy Great Basin Unified Air Pollution Control District

In a long-awaited decision, the California Air Resources Board Monday ruled that the Los Angeles Department of Water and Power is required to continue dust mitigation measures on dry portions of Owens Lake.

The decision comes in response to an appeal filed by the City of Los Angeles and means that the state agency agrees with the Great Basin Unified Air Pollution Control District's claim that the LADWP has not met its dust-control obligations. A lawsuit filed in federal court by the City of L.A. against both Great Basin and its Air Pollution Control officer, Ted Schade, is still pending.

"The State Air Board found in favor of Great Basin on every one of the issues," Schade said Tuesday. "Having across-the-board support from the premier technical and legal air quality organization in the state is very gratifying. The ARB spent an entire year carefully evaluating all the LADWP's objections and found no grounds for the LADWP's claims that no additional controls are required."

The LADWP said Tuesday that the CARB's decision was anticipated, and it will await a decision regarding a federal lawsuit it filed against Great Basin earlier this year.

"The decision by CARB to not look into this issue and simply accept Great Basin's position was not unexpected," LADWP Public Information Officer Chris Plakos said in a press release. "This decision doesn't change the fact that a common-sense solution is needed to stop both the senseless waste of water in the Owens Valley and the orders by Great Basin that attempt to force L.A. water customers to pay for additional dust control for dust emissions that LADWP didn't cause. That is why we filed a federal lawsuit – to stop the unlawful orders by Great Basin and to bring all of the responsible parties to the table to agree on a sensible solution."

It was in February of this year that the LADWP appealed a late-2011 order from Great Basin, the agency responsible for enforcing dust control measures, to conduct controls on 2.86 square miles of the lake.

"The most recent order by Great Basin would cost our customers another $400 million on top of the $1.2 billion already spent and do nothing to save water – that's unacceptable," Plakos said. "Great Basin's recent orders for incremental dust mitigation also require new areas of dust control for areas not impacted by LADWP's water diversions."

In 2008, Great Basin and the LADWP agreed on a plan for dust mitigation measures on the lake that would minimize the impacts of wind-driven dirt coming off the lake as a result of the LADWP's water gathering efforts in the Owens Valley.

Since the agreement, the LADWP has completed dust mitigation on more than 40 square miles of the lake bed that scientists from Great Basin identified as problem areas.

In February, with Great Basin preparing to issue mitigation orders for additional sections of the lake, the LADWP balked, saying that it has reduced dust blowing off the lake by 96 percent and has met its obligation for dust mitigation. The LADWP then appealed to the California Air Resources Board.

"Billions of gallons of

See RULING, page 5

RULING

Continued from front page

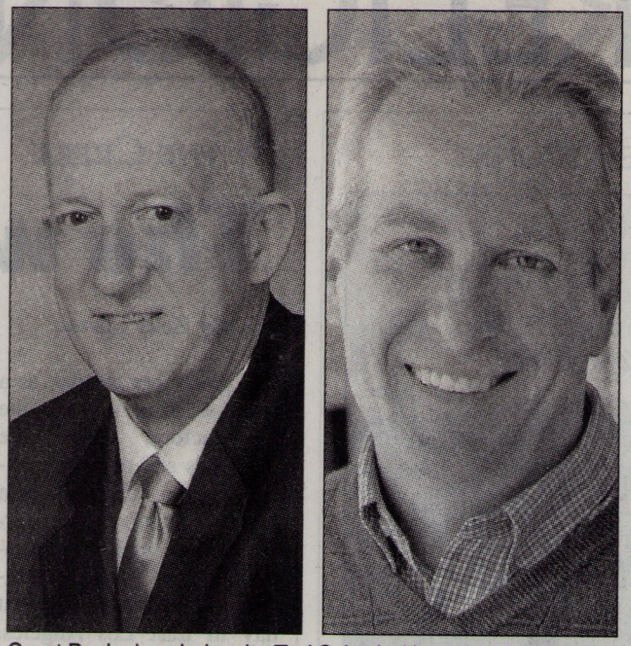
drinking water continue to be wasted every year controlling dust on Owens Lake, despite non-water or low-water options that can control dust," the LADWP said.

Among LADWP's arguments is that the 2008 agreement does not indicate any stopping point for mitigation measures, and, if unchecked, Great Basin would have the ability to mandate a never-ending list of costly dust-control projects.

The LADWP has also claimed that Great Basin has provided "no evidence of Los Angeles being responsible for the incremental areas, and yet has denied Los Angeles the ability to present our own evidence that demonstrates that dust from these incremental areas are not caused by Los Angeles."

The State Air Resources Board held a hearing to hear evidence from both sides in June, before making a decision on the appeal.

According to Plakos, an environmentally preferable solution does exist, and can be implemented if the relevant state and federal agencies come together and work with LADWP.



Great Basin, headed up by Ted Schade (r), and LADWP, managed by General Manager Ron Nichols hope to settle the Owens Lake dust control debate once and for all in federal court. File photos

As both agencies await the decision on the lawsuit, Schade said, "Great Basin encourages LADWP to move forward immediately to protect the air quality of the Owens Valley."

Shocker: First 7 Weeks of Your Water Bill Paying for Owens Lake Dust Bowl Costs

Details Written by Jack Humphreville 21 **Jan 2014**

Font Size

LA WATCHDOG-It is impossible for mere mortals to understand all the legal, procedural, and environmental mumbo jumbo contained in the lawsuits that have been filed by our Department of Water and Power in the United States District Court or the Superior Court of California against the overzealous Great Basin Unified Air Pollution Control District and the California Air Resources Board.

But when you learn that DWP and its Ratepayers are going to be soaked for a total of almost $1.9 billion for dust mitigation on Owens Lake in sparsely populated Inyo County, you know Ratepayers are being hosed.

Overall, annual operating expenses, including water replacement costs, and the cost to service the massive amounts of debt needed to fund almost $1 billion of related capital expenditures will cost Ratepayers $150 million a year, or about 14% of Water System revenues. Or putting it another way, the first seven weeks of our water bill will be flushed down the Owens Lake drain, thanks to the unelected Great Basin regulator.

Alternatively, the total cost of almost $1.9 billion represents more than $100,000 for each the 18,500 residents of Inyo County, the second largest in the State with a density of less than two residents for each of its 10,181 square miles.

The Great Basin regulator has very little respect for the DWP Ratepayers. Rather, DWP, according to the regulator's own words, is the big "fish on the hook" that you do not want to let go.

In other words, DWP and its Ratepayers are the deep pocket that are being given a bath, especially as the impacted area that needed to watered down has been expanded from 11 square miles in the late 1990's to 29 miles by 2003 and then to 42 square miles in 2006 and now 45 square miles. At the same time, DWP has been force to shoulder 100% of the costs, even though other parties, including Mother Nature, are responsible for a sizable portion of the dust.

Today, the Owens Lake dust mitigation project is consuming 95,000 acre feet of quality drinking water, representing between 15% and 20% of DWP's overall consumption.

Ironically, the cost of replacing Owens Valley water that flows downhill via the Los Angeles Aqueduct generating many megawatts of non polluting hydroelectric power along its 230 mile journey to LA is significantly greater than the environmental benefits derived from dust mitigation in this sparsely populated area because of the high energy costs and higher levels of greenhouse gas needed to transport replacement water from Northern California via the California Aqueduct to DWP's distribution facilities.

According to the court documents, DWP believes that it is being railroaded by the Great Basin regulator who has overstepped his authority and the California Air Resources Board and its staff as there are numerous violations of the Brown Act, the California Environmental Quality Act, and rules and procedures of the State and the Environmental Protection Agency.

Unfortunately, while the Ratepayers are being drowned by almost $2 billion of costs, our political leaders at City Hall and our representatives in Sacramento have been unwilling to risk any political capital to protect our wallets since this issue does not concern their budgets and spending priorities. We have not seen Felipe Fuentes, a former member of the Assembly and now chair of the Energy and Environment Committee, schedule any hearings on this wholesale fleecing of DWP and its Ratepayers. Nor were any scheduled under his predecessor, Jose Huizar.

There are many legal, environmental, procedural, and financial issues involving this circus at the sparsely populated Owens Lake. Before DWP and the Ratepayers get tagged for even more money, the Board of Commissioners, the Mayor, Herb Wesson, the former Speaker of the Assembly, and his City Council need to work with the California Air Resources Board that is chaired by Mary Nichols, a former DWP Commissioner. They also need to step up to the plate and protect the Ratepayers from the Great Basin regulator who is constantly expanding the scope of his assignment.

City Hall needs to know that Ratepayers vote as witnessed in the last election where they elected Eric Garcetti over Wendy Greuel and rejected Proposition A, the permanent increase in our sales tax, despite millions spent by the Herb Wesson's slush fund.

Does City Hall want to see our hard earned money go down the Owens Lake drain or be invested in our City? The answer is very simple.

(Jack Humphreville writes LA Watchdog for CityWatch. He is the President of the DWP Advocacy Committee, The Ratepayer Advocate for the Greater Wilshire Neighborhood Council, and a Neighborhood Council Budget Advocate. Humphreville is the publisher of the Recycler Classifieds - - www.recycler.com. He can be reached at: lajack@gmail.com. Hear Jack every Tuesday morning at 6:20 on McIntyre in the Morning, KABC Radio 790.)

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Court orders L.A. to pay Great Basin $1.1 million

LADWP says it will contest legal, other fees at upcoming trial over dry lake mitigation

By Mike Gervais
Register Staff

12-22-2012

Kern County Superior Court ruled this week that the Los Angeles Department of Water and Power must pay more than $1 million in fees to the Great Basin Unified Air Pollution Control District.

According to the courts, the fees were withheld by the LADWP as it contested orders for mitigation work on Owens Lake.

Great Basin said the $1.1 million the courts ordered the department to pay will be used to pay for legal costs incurred by the Air Pollution Control District in its legal battle with the LADWP over the utility's obligation to prevent dust from blowing off Owens Lake.

The LADWP filed a lawsuit against Great Basin Unified Air Pollution Control District in October, claiming that it had mitigated all dust-related impacts it had created on the lake. LADWP has refused to begin work on new mitigation orders until the courts rule on the case.

In the meantime, the LADWP is continuing to maintain mitigation measures on the lake that it had already completed.

Last month, the State Air Board issued a decision rejecting all of LADWP's challenges to the air pollution measures. The state court system will take up the issue next year.

"Today's decision is important to protect the environment and public health," Ted Schade, Great Basin's Air Pollution Control officer, said Monday. "Hopefully it sends a message to leaders in the City of Los Angeles that its Department of Water and Power must comply with the law and its past agreements, that they must obey regulatory orders and, most importantly, that they must finish controlling the air pollution caused by their water diversions from the Eastern Sierra."

Kern County courts have ruled that the LADWP must pay Great Basin Unified Air Pollution Control District $1.1 million for legal services as the two agencies go to court over dust mitigation measures on Owens Lake (above). Photo courtesy Great Basin Unified Air Pollution Control District

The LADWP, on the other hand, said this week's ruling is the first step in the litigation process, and it feels the court system will agree that it has completed its dust mitigation obligations.

"The judge did not rule on the merits of LADWP's claim that the fees that Great Basin charges LADWP's customers are unreasonable," said LADWP Public Relations Director Joe Ramallo. "The judge ruled only that LADWP must pay about $1.1 million in legal and other fees first and then contest them at trial. Great Basin has already stockpiled more than $2 million in L.A. ratepayer funds for services that were charged for, but never performed. At trial, LADWP will challenge Great Basin's levies on Los Angeles water customers, pointing to Great Basin's hiring of outside attorneys at the rate of $750 an hour, Great Basin's collection of more than $85 million in fees from LADWP over the last 17 years, and Great Basin's use of L.A. water ratepayer money to fully fund its pension system and to pay for more than 90 percent of Great Basin's annual budget."

In December 2011 and May 2012, the Great Basin Unified Air Pollution Control District ordered LADWP to pay fees associated with the development of dust control measures and legal costs to enforce Owens Lake air pollution control requirements.

While the LADWP refused to pay the fees, Great Basin footed the bill for legal expenses in its defense against the City of L.A.'s efforts to stop Great Basin from ordering more mitigation work

The LADWP has a budget of more than $2.5 million to pay two law firms to represent it on Owens Lake matters, in addition to a number of city attorneys working on these issues.

According to Schade, "In 1997, the California Air Resources Board ruled that Great Basin was also entitled to retain lawyers to respond to the city's challenges, and that those legal costs were properly assessed to the city as part of the development of the air pollution control measures. The duty of the city to pay those fees prior to appealing district orders was established in 1997 by Court Orders against the city."

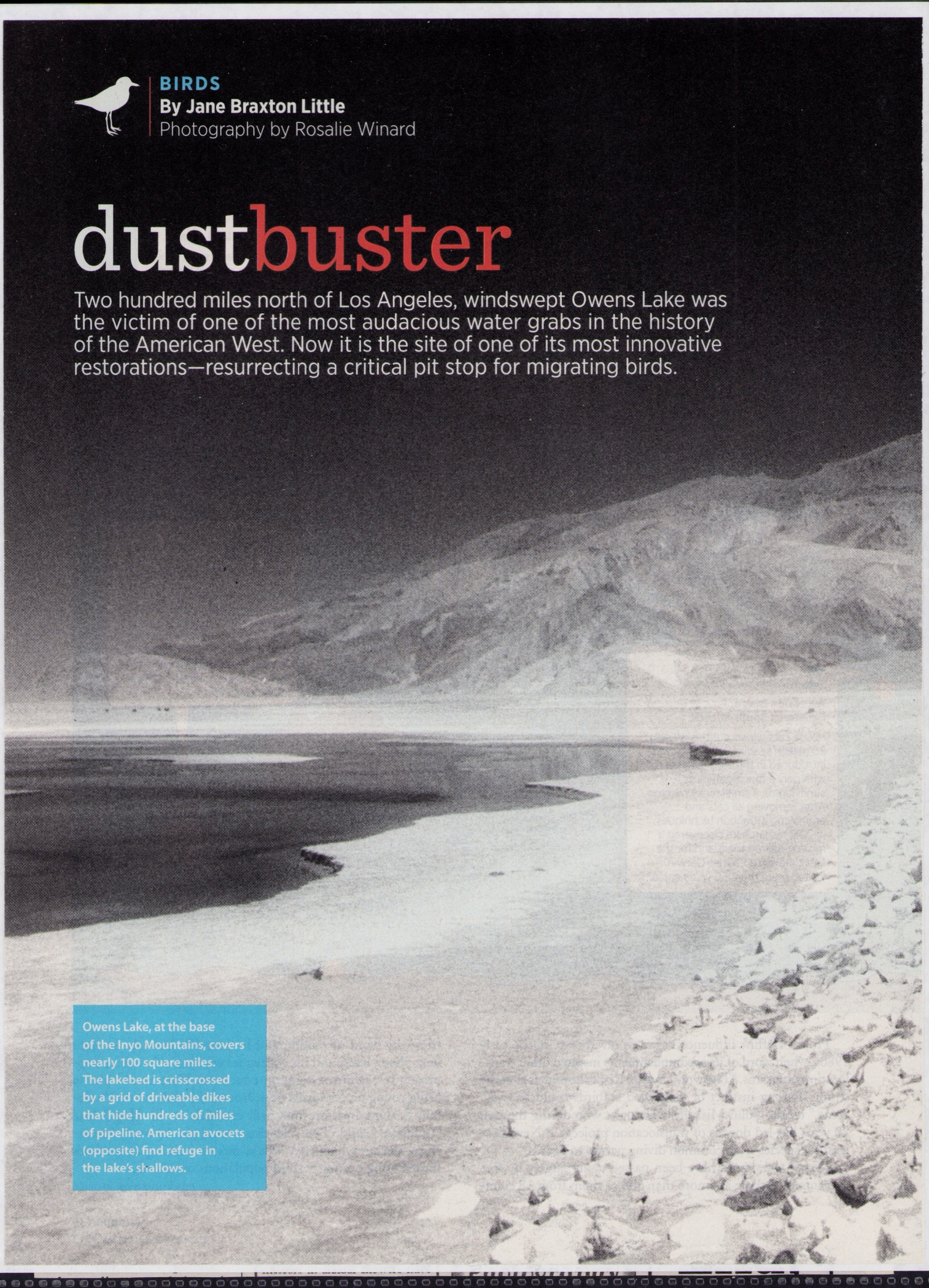
BIRDS

By Jane Braxton Little

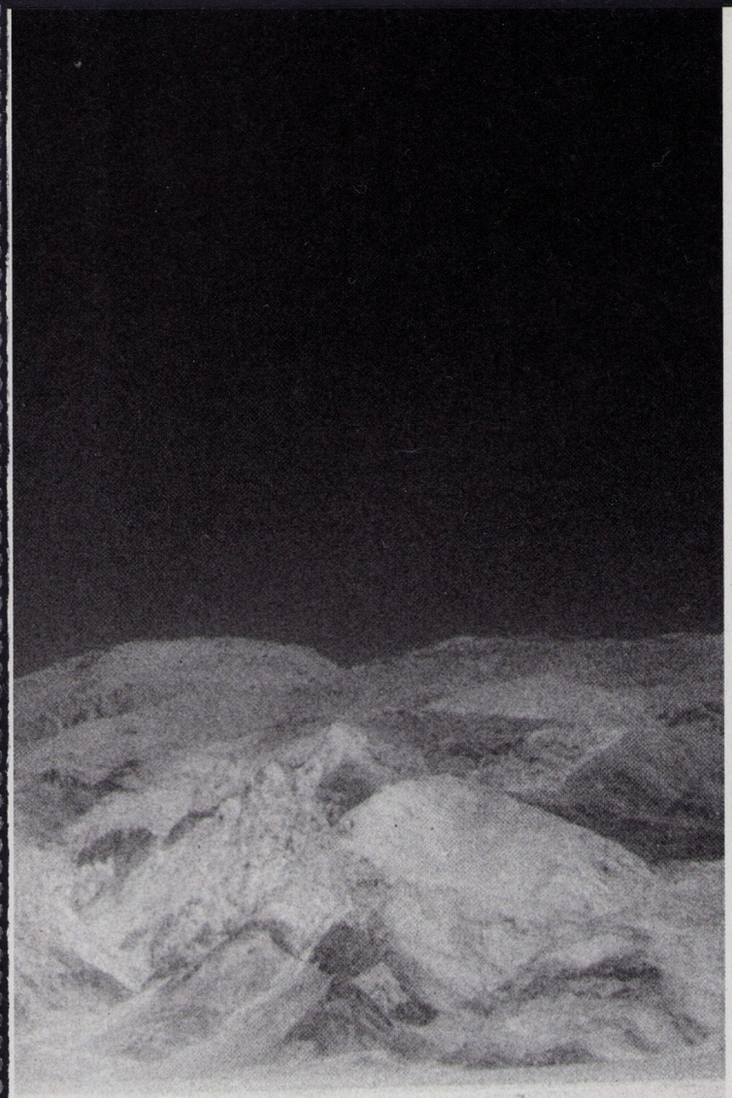
Photography by Rosalie Winard

dustbuster

Two hundred miles north of Los Angeles, windswept Owens Lake was the victim of one of the most audacious water grabs in the history of the American West. Now it is the site of one of its most innovative restorations—resurrecting a critical pit stop for migrating birds.



Owens Lake, at the base of the Inyo Mountains, covers nearly 100 square miles. The lakebed is crisscrossed by a grid of driveable dikes that hide hundreds of miles of pipeline. American avocets (opposite) find refuge in the lake's shallows.



When the wind blows across Owens Valley—and it almost always does—it can kick up dust so thick it reduces visibility to mere yards. Most motorists driving by along the east side of the Sierra Nevada miss the lake sprawling beside Highway 395 altogether. Hardly anyone stops to see birds. But when they do they find a sweet paradox. In the midst of the dust—actually, because of it—shorebirds, diving birds, and waterfowl are thriving at Owens Lake.

A visit at dawn on an unusually clear spring morning is proof. A flock of American avocets is feeding in one of the lake's shallow pools, flaunting breeding plumage the color of toasted marshmallows. All in a row, they sway their slender upturned bills to and fro in search of insects. The flock segues from straight line to smooth circle and back again in a delicate ankle-deep dance. A trio of least sandpipers and a pair of snowy plovers tag onto the column, as a crescent moon slips behind the granite peaks of the Sierra.

Suddenly the sunrise serenity implodes in a roar of motors shooting five-foot jets of water onto a wind-dried patch across the gravel levee that lines the avocets' pool. Beyond it are mudflats, salt flats, and gravel flats stretching to a cracked playa—nearly 100 square miles of lakebed crisscrossed by a grid of driveable dikes that hide hundreds of miles of pipeline. Soon 18-wheeler dump trucks lumber past, bearing loads of gravel bound for other sections of the lake. Acrid diesel exhaust overwhelms the delicate scent of salt.

Trucks and pumps, avocets, and the city of Los Angeles, 233 miles away, are all part of a drama playing out on this vast desert stage in remote southeastern California. Owens Lake, the victim of one of the most audacious water grabs in the history of the American West, is now the site of one of its most innovative restorations. Dust, long the scourge of this barren basin, is propelling a $1.2 billion wetlands restoration funded by Los Angeles, a project where conservation and construction coexist. What was dry as bleached bone for nearly a century already has enough water to make it a critical stopover for tens of thousands of birds migrating on the inland Pacific Flyway. Under a proposal recently released by city officials, heavy equipment will further improve the habitat in an area twice the size of Manhattan. The

odd result is an industrial zone where birders must wear hard hats to enjoy an internationally significant Important Bird Area.

"Where else could you find 18-wheelers creeping around avocet nests built in the middle of the road?" says Mike Prather, the de facto patron saint of Owens Lake. A bespectacled, bearded man with curly gray hair and a slight paunch, Prather, 67, is driving slowly along a newly built single-lane levee. He is so engrossed in pointing out the birdlife—"Harrier!" "Willet!"—he nearly steers into the briny drink. Stopping the car, he cocks his head to listen to a yellow-headed blackbird croak metallically from his perch on a nearby bulrush. A thatch of cattails shelters greater yellowlegs. Virginia rails are probably breeding here out of sight.

This lush niche with its computer-controlled pumps is a stark contrast to nearby stretches of empty lakebed. For Prather, who has lived in Owens Valley for 33 years, it's a true sign of progress. "Sometimes it seems slow, but I'm hopeful," he says. The tally from this year's spring bird count supports his optimism: 115,000 birds in a one-day count, 64,500 of them shorebirds representing 20 different species. The new record blows away the old one of 75,000, set last year. "You can begin to dream about what this place could be, and what it once was," says Prather, whose Facebook name is "Owens Lake."

Owens Lake looms between Mount Whitney, the highest point in the Lower 48 states, and Death Valley, the lowest. For thousands of years avocets and snowy plovers nested here along with hundreds of gadwalls and long-billed curlews. In his 1917 surveys, field biologist Joseph Grinnell reported "literally thousands of birds within sight of this one spot." He described large flocks of shorebirds in flight as "now silvery, now dark, against the gray-blue of the water."

Wildlife was thriving in the 1860s, when the discovery of silver in the mountains east of the lake created the boomtowns of Swansea and Keeler. The raw ore was smelted into ingots shipped across the lake in propeller-driven steamboats. From there the precious metal was hauled by wagon to the Southern California coast to help build the pueblo of Los Angeles. For the farmers who followed the miners into Owens Valley in the late 1800s, making a living was always a hard scrabble. It became all but impossible after the early 1900s, when Los Angeles officials set their sights on eastern Sierra runoff as a water supply that would allow their young city to grow. William Mulholland, superintendent of the newly created Department of Water and Power, began acquiring water rights in the valley using underhanded tactics that included a city official posing as a rancher. Once secured, he engineered a 200-mile gravity-flow aqueduct and, in 1913, turned the spigot that diverted the Owens River and all the other streams feeding the lake to Los Angeles. "There it is," Mulholland declared. "Take it." The scandal was memorialized in *Chinatown,* Roman Polanski's 1974 movie. For rural water users, Owens Valley became a symbol of exploitation by a ruthless and deceptive metropolis. The once 200-square-mile lake shrank steadily, leaving in its wake a ghostly white alkali void. By 1927 Owens Lake was a barren expanse bigger than Washington, D.C.

Prather and his wife, Nancy, passed through in 1972—in a VW bus that had a McGovern sticker affixed to its bumper—en route to jobs teaching kindergarten through sixth grade at a two-room school in Death Valley. They arrived at midnight in 92-degree heat to find their linoleum-floored apartment with a disconnected cooler. "You do a lot of stuff in your mid-twenties," Prather says. But jumping into the frying pan of Death Valley launched his career as an environmental educator. Once a month students, their families, and assorted neighbors piled into the school bus, which Prather drove, for treks up mountain peaks and full-moon walks across the sand.

Owens Lake, which hadn't gone dry in at least 5,000 years, if ever, became the single largest source of air pollution in the nation. A dust storm in 2000 exceeded federal air standards by more than 100 times.

Death Valley also introduced Prather to some of the world's best birders. Like bees to honey, the birders came in droves to see vagrants straying from their migration courses to land, exhausted and thirsty, on Death Valley National Park's Furnace Creek golf course. "I learned most of my eastern warblers at Furnace Creek Ranch," Prather says. He was never so batty about birds to chase them around the world, but he and Nancy did name their daughters Robin and Phoebe.

When the family moved to Lone Pine, where Prather helped found the Eastern Sierra Chapter of Audubon, Owens Lake was not among the places he looked for birds. All the water was long gone to Los Angeles. But a corner of the lake fell into the Christmas Bird Count circle, so in 1985 Prather and his fellow birders dutifully surveyed it. The tally results astonished them. Sandpipers and other migrants flying south were lingering in a chain of small wetlands on the fringes of the lake. "It was like this lake refused to die," he says, still amazed.

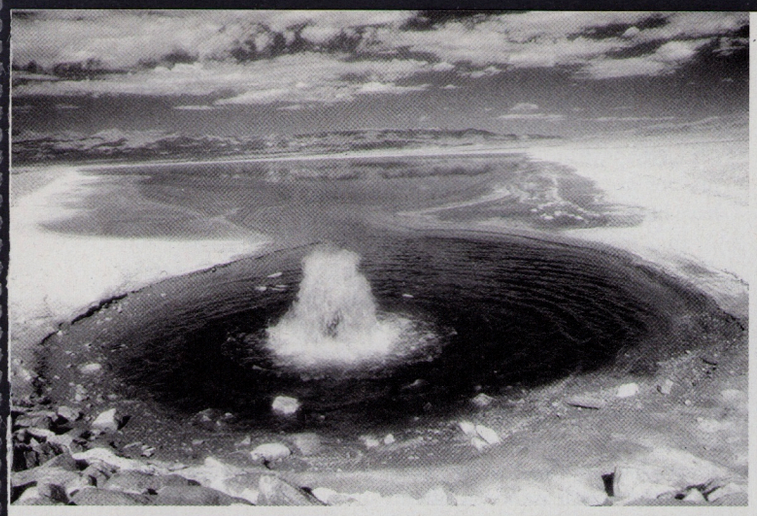
Finding migrant birds at Owens Lake sparked a passion in Prather to preserve the remaining habitat and restore as much more as possible. He organized birding trips, gave lectures, taught Birding 101 at a community college, and nominated the lake as an Important Bird Area. White-faced ibis and long-billed dowitchers are at Owens Lake, Prather would tell anyone who would listen. He described winter flocks of snow geese, the return of cinnamon teals, and snowy plovers nesting on the white salt flats, where they are well camouflaged from predators.

A teacher by nature and profession, Prather spoke fervently about the potential for improving Owens Lake for birds from the seeds of habitat that had somehow survived. He was, in his quiet way, building an Owens Lake constituency from the mud-cracked lakebed up.

For many years he was a lone voice, says Andrea Jones, who directs Audubon California's Important Bird Areas program. "It was just Mike out there jumping up and down." By the time they met in 2006, Prather was armed with three-ring binders loaded with articles, photos, data, and testimony from his many public statements. "I gave her both barrels," he says with a chuckle. Jones also remembers the meeting: "He accosted me with those huge binders." Audubon California immediately committed staff time and resources to Owens Lake.

The excitement over birds parallels a more

Clockwise from top left: Water from the Los Angeles aqueduct gushes out of pipes to fill the dry lakebed; a flock of American avocets; Owens River water flows into lake wetlands; a pair of eared grebes; an 18-wheeler carries gravel for dust control; a snowy plover; Highway 136, which runs along the lake's eastern shore; a black-bellied plover.



BLOWING
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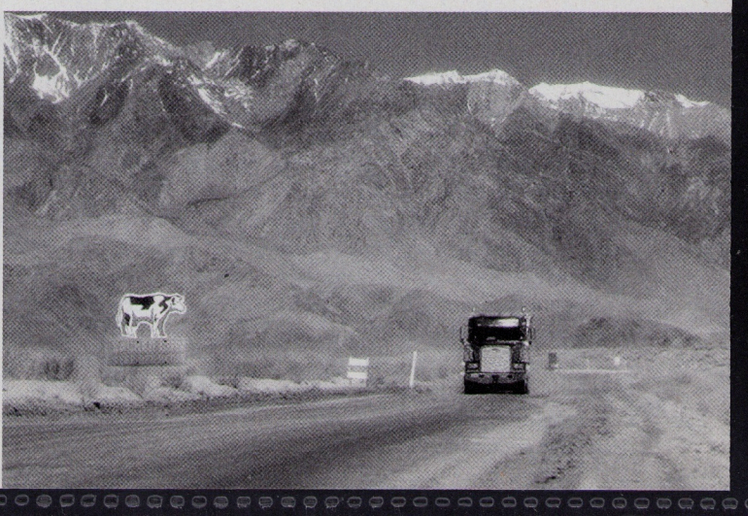

contentious process that has been playing out in legal offices and courtrooms since the 1980s. That fight is about dust. Winds sweeping down the 11,000-foot Sierra escarpment have always blasted across Owens Valley, but when they blew over the newly drained lakebed they stirred up a toxic mix of arsenic, cadmium, and other carcinogens along with the salts and minerals left behind when the water went south. These tiny particles—more than 50,000 would fit in the period at the end of this sentence—penetrate deep into the lungs, causing damage to respiratory systems that can trigger asthma, emphysema, and even heart attacks.

It is the size of the particles and their immense quantity that make them so dangerous, says Ted Schade, who works for the Great Basin Air Pollution Control District based in Bishop, 60 miles north of the lake. "You don't want to breathe this stuff," he says. "It can kill you." Owens Lake, which hadn't gone dry in at least 5,000 years, if ever, became the single largest source of air pollution in the nation. A dust storm in 2000 exceeded federal air standards by more than 100 times, Schade says.

The dust blustered into the China Lake Naval Air Weapons Station, 75 miles to the south, disrupting tests being conducted there. U.S. Forest Service officials complained that it irritated visitors and employees alike. The most adverse consequences by far were to the 40,000 residents of Owens Valley, predominantly members of the Paiute-Shoshone Tribe. Many of the students at the Lone Pine Elementary School were using inhalers, and often the dust was so thick the entire student body was kept inside at recess. Visits by asthmatic patients to local emergency rooms surged.

The Great Basin district documented the air pollution for more than a decade, and then held Los Angeles responsible for controlling it. Court orders backed the air district. City officials guarded their precious resource like liquid gold; diverting flow from their aqueduct was like putting a hand in the city till. But they already owned the water and releasing some of it onto the lakebed—a matter of turning a few valves—was the easiest way to control dust. After years of rancorous negotiations and consistent rulings in favor of the air district, the Department of Water and Power finally committed to controlling dust on 22 square miles of the sandiest, grimiest part of the lakebed. Following a 1997 agreement, the department began spraying water and planting vegetation as well as spreading gravel across an area now expanded to 45 square miles. The moisture was magical: A population of single-celled algae exploded in the saline water, providing food for alkali fly larvae and adults, which, in turn, the shorebirds and waterfowl scarfed up. It was a start, says Prather.

The 1997 agreement did not end the hostilities. Even as the habitat burgeoned, the air district continued to measure the dust. "We just kept poking around the lakebed and finding more pollution," says Schade. As the area of mandated dust control crept up, the city filed lawsuits. The courts rejected them, and the air district imposed additional dust control standards. The 1997 agreement left the city responsible for deciding how to control the dust, but whatever method it proposed met with opposition from someone. Conservationists objected to anything that reduced the habitat; water and power officials opposed anything that required reducing the flow in the aqueduct. "The process was just plain ugly," says Pete Pumphrey, a retired attorney and president of Eastern Sierra Audubon, who has been involved in the negotiations since moving to Bishop in 2004.

The eventual breakthrough may have stemmed from a change in leadership at the Department of Water and Power. Or, perhaps, from the air district's threat of a $10,000-a-day fine for not meeting the dust control mandates. Or it could have been sheer battle fatigue.

In 2008, after years of protracted negotiations, Jones and Audubon California issued an invitation to anyone with a stake in Owens Lake: conservation groups, such as the Native Plant Society and the Sierra Club; state and federal agencies; county and Los Angeles officials. Everyone accepted. For the next three years a U.S. Forest Service office on the Bishop Paiute reservation was used to facilitate an open dialogue focused on identifying common habitat goals and solutions that address the entire lake. It soon became clear that they could protect significant amounts of habitat as well as save significant amounts of aqueduct water. "We realized that what is good for Los Angeles operationally can also be good for the habitat," Jones says. In 2010 the city offered to fund a facilitated master-plan process based on shared goals.

The newfound partners developed an index of suitable habitats for the entire lake based on scientific data each had gathered on such factors as water depth and species use. Multiplying each area's richness by the number of acres it occupies can determine where to create shallow ponds and marshlands with the least amount of water. The soils are richer at the lake's north end, for example, so it makes more sense to put water there to grow cattails for Virginia rails than to flood the poorer soils farther south, says Bill Van Wagoner, manager of the city's Owens Lake dust mitigation program. What the partners were designing was an enormous, on-the-ground experiment. "No one has ever tried to do anything on this scale," he says.

So far actual on-the-ground restoration has been spotty, determined by the demands of dust control, not birds. It has created a 100-square-mile mosaic crisscrossed by hundreds of miles of levees. About 36 square miles are flooded areas that include shallow pools for avocets, open water for pelicans, and wetlands for marsh wrens and red-winged blackbirds. Los Angeles planted about four square miles of saltgrass near the south end of the lake. At $12 million per square mile, it was an early, expensive effort to control dust. Today the habitat also includes roughly 30 square miles of natural brine pools. What's left remains a wind-rumpled playa where dust continues to blow in dirty-white clouds.

Along the fringe of the lake, where Prather is currently driving, the graveled levee abruptly crosses to a shallow flooded area devoid of vegetation but packed with nutrients. Hundreds of western sandpipers, startled at the approaching vehicle, rise in unison to wheel over the water in alternate flashes of white bellies and brown backs. "That's one of the prettiest spectacles of nature," says Prather, grinning with pure boyish awe. Since dust control began, Owens Lake has become a reliable refueling place on the sandpipers' annual 6,000-mile migration from Panama Bay to Alaska, where they breed and nest before heading south for the winter.

Habitat restoration here comes at a critical moment for the Pacific Flyway. At a time when the Colorado Delta is gradually deteriorating, the Salton Sea is dying, and the Tulare Basin is drying up, Owens Lake is a priceless stopover site for migrating birds. "It's not the silver bullet," says Prather, "but it's a degree of insurance. We are witnessing the return of wildlife on a scale unparalleled in the state of California."

Yet everything about Owens Lake is as shifting as the winds that have dusted up the problems he and others are trying to solve. Despite the partners' agreement nearing completion and wildlife flourishing on the lake, Los Angeles and the air district

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"What keeps me going is fairness and the opportunity to defend the things I love—these gigantic landscapes and empty wild places."

continue to battle over how much of the original lakebed the city should be responsible for. It might take 50 square miles to control the dust, says Schade. The 75,000 acre-feet of water (enough to cover a football field with water nearly 14 miles deep) Los Angeles is taking out of the aqueduct annually has reduced the dust by almost 90 percent. "We're nearly there," he says.

But Los Angeles officials said they'd done enough. After particularly combative litigation last year, negotiations stopped and everything went quiet, says Jones. The master plan, which lacked little beyond signatures, lay dormant.

In the middle of this standoff, to the surprise of almost everyone, Ron Nichols, director of the Department of Water and Power, initiated a meeting with Audubon California. Within a few months Jones, Pumphrey, and Prather were poring over a brand-new, 33-page document: the city's proposal for a project designed to meet all of the goals of the unsigned master plan. The abrupt, unilateral process Los Angeles used smacked of its century-old negotiations in Owens Valley, but the proposal itself retains the wildlife habitat Audubon has been demanding. It adds trails for public access and puts birds "all over the place," and does so with much less water on the lake, Jones says. Los Angeles plans to nearly double the $1.2 billion it has already put into dust control, committing up to an additional $1 billion to the restoration project. Because it halves the amount of water now flooded onto the lakebed, funding will come from selling that saved water to customers in Los Angeles. Suddenly years of talking and planning have evolved into a defined project. "We got what we wanted," says Jones, slightly stunned.

The surprising discovery in 1985 of a key migratory bird stopover at Owens Lake sparked Mike Prather's passion to preserve the remaining habitat and restore as much more as possible.

Even the decades-old battle between Los Angeles and the Great Basin air district may be settling down. In June they reached an agreement that allows the city to fast-track gravel and other dust control measures that do not require water.

While the restoration proposal goes through certification under California environmental regulations, a 6.5-square-mile pilot project is poised for the start of construction this fall. Heavy equipment will dig ponds, pushing the dirt removed into islands where stilts and avocets can nest without fear of terrestrial predators. Mudflats will morph into marshes for northern harriers and savannah sparrows. It is the first restoration project deliberately designed around habitat, not dust control, says Van Wagoner. The pilot project, which will be vigorously monitored by city and independent scientists, will test the goals set by the partners during their years of planning.

It's just the start of a multistage project, but Jones and Prather plan to celebrate with a groundbreaking ceremony in November. Department of Water and Power officials will be there, sharing shovels overturning the first dirt, says Van Wagoner. "It's remarkable to me that we've actually found a path forward where we are arm in arm with Audubon." Ironically, honoring habitat restoration will coincide with commemorating the cause of its demise. One hundred years after draining the lake, the Los Angeles City Council has declared 2013 "The Year of the LA Aqueduct" and scheduled a November 5 celebration.

The opposing festivities are classic Owens Lake—simultaneous reminders of the human potential for destruction and the power of nature to recover. After living for three decades with both the devastation of the lake's habitat and the promise of restoration, Prather remains mostly optimistic. The Department of Water and Power's latest proposal for restoration is good, he says. But his heart has been broken before. This is the time to rally the public, agencies, conservation groups, and Los Angeles politicians to commit to the proposed protections before they change their minds.

For Prather the fight is about more than birds and a lake; it is also about the overlooked parts of our nation's natural heritage and the struggle for small communities pushed around by larger cities. "What keeps me going," he says, "is fairness and the opportunity to defend the things I love—these gigantic landscapes and empty wild places."

At dusk, when the 18-wheelers shut down and construction has stopped for the day, Owens Lake settles back into habitat. A chalk-colored cloud is blowing toward a shallow pool where another flock of avocets is feeding, their heads the burnished orange of breeding. One pair stops. Ignoring the gusts, they stretch their necks up and down, so close together they are almost rubbing in a ritual that has to be courtship. Their dance continues for 60 astonishing seconds. Just as suddenly it is over, and the pair blends back into the flock. Soon, perhaps within a week, they may be building a nest together in the middle of one of the lake's levees. For now they are bobbing with the others in a wind-whipped pool of whitecaps as the cloud closes in. Owens Lake is once again engulfed in a spring dust storm. ■

Contributing editor **Jane Braxton Little** *also writes for* Scientific American, Environmental Health Perspectives, *and* The Daily Climate, *among other publications.*

PART 1 — An investigative report on Owens Dry Lake dust and respiratory disease in Owens Valley.

1987

By Sandie Pramann

The winds came from the south on May 29, 1985. Gusts clocked at 62 mph buffeted Owens Valley. I sat alone in my car parked near Keeler at the north end of Owens Dry Lake. I had come to witness an "Owens Dry Lake Dust Storm" firsthand. It looked as though I wouldn't be disappointed. The winds picked up, and a huge cloud of white dust began forming over the lakebed. It appeared to be fed by "tornado like" plumes spiraling skyward from the lake's surface. I rolled up my window even though the temperature was near 80 degrees, and continued to watch as the cloud grew in size. Within an hour the air was heavy with fine white particles of dust. I could no longer see the mountains a short distance away. Breathing became difficult, and my throat and eyes burned. My nose started to bleed.

I had seen enough. I started the car, the air conditioning giving welcome relief from the oppressive heat, and glanced at the dash. It was covered with a thick layer of fine white dust. I drove back to Bishop thinking about what the residents of Keeler had told me two weeks earlier . . . they were developing respiratory problems, and had noticed damage to the paint on their cars.

Like a paint-by-number picture, the scene was revealing itself. And, with each stroke of the brush, the picture became more frightening.

Owens Dry Lake is located 200 miles north of Los Angeles at the southern end of Owens Valley. As recently as 1911, Owens Lake was a vast inland sea covering an area of 112 square miles. The lake had no outlet and much like Mono Lake to the north, had gradually become saline in nature.

In 1913 the Los Angeles Department of Water and Power (LADWP) began diverting surface waters feeding the lake into an aqueduct constructed to carry water to Los Angeles. By 1926, Owens Lake was dry. In its place stood an 88 square mile chemical wasteland.

Five years following the diversion of surface waters, LADWP went on to sink wells into Owens Valley in order to pump groundwater into the aqueduct system. The result has been a continuing drying of Owens Valley. There is speculation that this drying may be permanent since the soil within the valley may be compacting and losing its ability to retain water. If this is true, it will cause a further reduction in vegetation covering the valley floor. This will compound an already serious problem in Owens Valley.

As many as fourteen major dust storms originate at Owens Dry Lake each year. The fine white particles which are picked up by the wind blanket the entire region for several days following storms. The chemical composition of the dust has been analyzed, and the results would make even a die-hard anti-environmentalist a bit squeamish. Chemicals being inhaled by the populace during dust episodes include sodium, aluminum, silicon, sulphur, chlorine, potassium, calcium, iron and high concentrations of sulfate and carbonate radicals. In addition to the alkalis, the dust also contains heavy concentrations of fine clays. These are normally hard to inhale, but Owens Dry Lake dust provides

an abundance of well-separated clay particles.

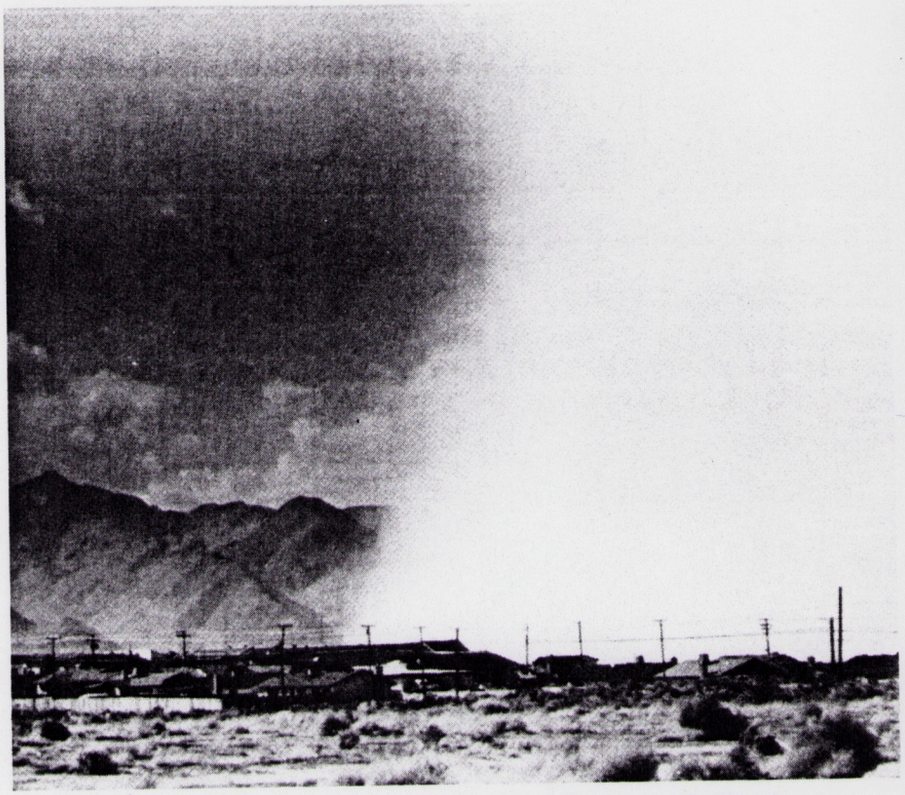
During severe dust storms, when visibility is reduced to one mile, as much as 6.58 milligrams of dust particles are deposited in the human lungs within a 24 hour period. An additional 13.20 milligrams are deposited in the tracheobronchial region of the human body during the same 24 hour period.

A report issued by the Inland Counties Health System Agency in 1976 states: "It is known that suspended particles of certain sizes are retained in the alvoelae of human lungs with longest retention

"The correlation between Owens Dry Lake dust and respiratory disease appears to be more than speculation."

in the sizes of about 0.5 to 3 microns in diameter. Dust suspended by winds in the Owens Dry Lake region contains high proportions of particles in the 1 to 10 micron size."

The correlation between Owens Dry Lake Dust and respiratory disease appears to be more than speculation. A report recently compiled for the China Lake Naval Weapons Center located near Ridgecrest, California, states: ". . . medical problems are aggravated by the (Owens Dry Lake) dust. Patients at the Ridgecrest medical complex who suffer from emphysema, asthma and chronic bronchitis are subject to increased morbidity. Hospitalization of these patients with bronchial spasm and related pulmonary problems increases during dust episodes. The populace complains of coughing, sneezing, and irritation of the eyes. Psychological problems emerge as some people become apprehensive because of difficulty in breathing. People become annoyed and anxious. Cats behave abberantly . . ."



One of many dust storms advancing on the Ridgecrest, California area.

Similar correlations are being made by health professionals in Owens Valley. Gilbert Rodrigues, M.D., specializes in respiratory patient care at Northern Inyo Hospital in Bishop. Dr. Rodrigues is seeing a much higher number of people with lung disease, per capita, than he did while practicing in Orange County. "Half of all patients admitted to intensive care at Northern Inyo Hospital have lung related problems, and 60% to 70% of all patients admitted for routine surgery have moderate to moderately severe lung disease," Dr. Rodrigues stated in a recent interview. He went on to say, "Respiratory related illnesses are overwhelming the medical resources of this community. The dust from Owens Dry Lake is a tremendous threat to an already compromised lung patient, and those suffering from emphysema grow much worse in Owens Valley." Dr. Rodrigues stressed that elderly lung patients are the ones who suffer most. "They are financially trapped in Owens Valley and can't leave," he explained.

When asked his recommendations on making the public aware of the severity of the problem, Dr. Rodrigues said, "I believe that the Inyo County Board of Supervisors must declare to the public that we have a potential crisis here in Owens Valley. Residents must know what Owens Dry Lake dust is doing to their health." He also recommended that "Warnings" be issued when Owens Dry Lake particulates are in the air.

Dr. Rodrigues has lived in Owens Valley four years. As we concluded our interview, he said, "I'm already feeling the effects of Owens Dry Lake dust." He is not alone.

On March 4 and 5, 1987, major wind storms blanketed the Bishop area with Owens Dry Lake dust. Respiratory problems increased dramatically in the Bishop area following these storms. Local pharmacists, who fill prescriptions for lung related illnesses, describe respiratory problems as "epidemic" in Owens Valley.

Inyo County officials apparently are not taking the problem seriously. Although "Significant Harm To

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Health" levels of air pollution, as established by State and Federal guidelines, have been exceeded on numerous occassions, warnings are not being issued to the public.

Inyo County Supervisors have been aware of potential health hazards associated with Owens Dry Lake dust since 1976. Completely aware of health risks, they approved a major development which will attract 2,000 full-time residents to the north shore of Owens Dry Lake.

In July 1985, our staff obtained a copy of the Environmental Impact Report (EIR) prepared for this project. We analyzed the report paying particular attention to air quality monitored by the Great Basin Unified Air Pollution Control District (GBUAPCD) near the project site. In comparing data included in the EIR with data provided by the GBUAPCD, we found several descrepencies. Some of the most severe pollution levels monitored near the project site had been omitted from the EIR.

"Why would we try to cover it up? We included everything Chuck Fryxell gave us, and if he say's we didn't, he's a liar."

. . . Dan Beats

In order to find an explanation for these omissions, we contacted Dan Beats. Beats, who is currently employed by Inyo County, was employed by a private engineering firm at the time he prepared the EIR for project developer, Arland Dunn. We asked this question: "In going over the Dunn project, we've found that data provided to you by GBUAPCD was omitted from the EIR. Can you explain this?" Beats replied, "Why would we try to cover it up? We included everything Chuck Fryxell gave us, and if he says we didn't, he's a liar."

We then contacted Chuck Fryxell. Fryxell was head of GBUAPCD in Bishop at the time the Dunn EIR was prepared. He was one of the first to suspect a link between Owens Dry Lake dust and respiratory disease in Owens Valley. When told of Beats' comment, Fryxell stated, "Dan Beats was given the same information you have. If this information is missing from the EIR, it's obvious to me that it was left out intentionally."

The Dunn project and Owens Dry Lake are located in Inyo County's 5th Supervisorial District. Supervisor Robert Bremmer represents the people of the 5th District. It is the residents of this area, present and future, who may suffer the most severe damage as a result of breathing Owens Dry Lake dust. Bremmer has offered unquestioning support of the Dunn project even though 2,000 people may be exposed to serious health risks. His support of the project may be explained by a desire for economic growth in his district. Another possible explanation could be a substantial campaign contribution made to Bremmer in the 1984 election. The contribution came from a company called Traditional Industries. Traditional Industries is owned by project developer, Arland Dunn.

"Dan Beats was given the same information you have. If this information is missing from the EIR, it's obvious to me that it was left out intentionally."

. . . Chuck Fryxell

An Ill Wind Blowing will continue in the July/August 1987 issue of Sierra Life. Our continuing investigation will expose the "Power" behind the problem and why hundreds of cases of lung disease may develop before a solution is found.

This series of articles is dedicated to my father who is suffering from emphysema. His illness was caused by breathing alkali dust intermittently over a ten year period of his life. If we can prevent just one case of lung disease, the political pressures encountered in preparing this series will have been worth it.

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Photographs by BRIAN VANDER BRUG Los Angeles

EVENING STROLL: A stilt looks for food in a shallow pond at once-barren Owens Lake. The lake-wide bird census Saturday counted tens of thou sands of migrating birds, many bulking up to finish a journey from as far south as Argentina to breeding areas in Alaska, Canada and the Arctic.

Nature has returned, unexpectedly

Birds flock to the thin sheet of water in Owens Lake that was poured in as dust contr

01

LOUIS SAHAGUN
REPORTING FROM LONE PINE, CALIF.

Teams of biologists fanned out across the vast playa of Owens Lake on Saturday to take a full accounting of one of environmentalism's unintended successes: tens of thousands of migrating waterfowl and shorebirds roosting on a dust-control project.

The 100-square-mile lake just east of Sequoia National Park was transformed into dusty salt flats after 1913, when its cargo of snowmelt and spring water was diverted into the Los Angeles Aqueduct. Since 2001, however, the Los Angeles Department of Water and Power has flooded portions of the lake bed to control choking dust pollution.

Nature quickly responded to the ankle-deep sheet of water delivered by the $500-million dust-control project's plumbing system. First to appear on the sheen of water tinged bright green by algae were brine flies. Then came migrating birds that feed on them and peregrine falcons that feed on the birds.

This year, Audubon California designated Owens

[See **Birds,** Page A37]

JUST ADD WATER: California gulls take flight. The L.A. Department of Water and Powr has flooded parts of the lake to cut air pollution since 2001, hoping to end conflict with local reident

Bird census shows nature's return

BRIAN VANDER BRUG Los Angeles Times

HARD LOOK: Jon Dunn used a spotting scope to count hundreds of birds on the far side of a pond at Owens Lake.

[**Birds,** from Page A33]

Lake one of the 17 most important bird areas in the state and a globally important wetlands in the making.

Peering through a spotting scope in the direction of a chaotic chorus of gulls and waterfowl, Michael Prather, a botanist who helped organize the lake-wide bird census, said, "We believe there are more birds at Owens Lake now than at any time since its water was diverted in 1913."

Moments later, the birds lifted off the water in a clatter of wing beats.

"There's a palpable tenseness among these migrating birds," he mused. "It's almost as though, having little time to spare, they are tapping their feet, anxious to get moving to their ultimate destinations."

As he spoke, about 20 species of shorebirds and waders — long-billed curlews, yellowlegs, American avocets, black-necked stilts, sandpipers, black-bellied plovers, Wilson's phalaropes, dowagers and whimbrels — were bulking up their fat reserves to complete a journey that would take them from wintering grounds as far south as Argentina to breeding areas in the boreal forests and shores of Alaska, Canada and the Arctic.

Owens Lake is an eerily flat, shimmering landscape, about 200 miles north of Los Angeles, surrounded by spiky lava flows and banded hills between the 14,000-foot Sierra Nevada on the west and the 11,000-foot Inyo Mountains on the east.

In fall and spring, it now attracts about 50,000 birds, including roughly 500 snowy plovers, a shorebird listed as a species of special concern. Breeding on sandbars and in thatches of grass are colonies of yellow-headed blackbirds.

One team crisscrossing the white, crunchy lake bed was led by DWP biologist Debbie House and Jon Dunn, co-editor of the National Geographic Field Guide to the Birds of Western North America.

> '40 redheads, 85 California gulls, 10 lesser scaup and 2 peregrine falcons . . . .'
>
> — JON DUNN, bird expert; co-leader of one team

> 'Osprey!'
>
> — TONY BRAKE, team member, chiming in

Dunn used a spotting scope to count hundreds of birds on the far side of a spreading pond, calling out their numbers and species to House, who recorded the tallies on a clipboard.

"I've got 250 cinnamon teal, 40 redheads, 85 California gulls, 10 lesser scaup and two peregrine falcons hunting ducks along the shore," he said. "There's also 13 ring-billed gulls and a white-faced ibis."

"Osprey!" added Tony Brake, a retired neuroscientist who volunteered for the day.

A few miles to the south, Prather's team surveyed wildlife pecking at waterborne insects and brine shrimp in and around brackish ponds. Highlights included what Prather excitedly described as "a scopeful of Franklin's gulls!"

Not bad birding for one Saturday morning.

Hoping to end decades of conflict with Owens Valley residents, Los Angeles has tried a variety of methods to cut air pollution, including flooding, plants and gravel. Amid drought concerns, the dust-control project, which has been dogged by cost overruns, is experimenting with a $105-million waterless process called "moat and row." The process attempts to capture airborne dust particles in a specifically configured ridged landscape.

Los Angeles Times

As it stands, each year the project uses about 60,000 acre-feet of water worth about $54 million — enough to supply 60,000 families.

The annual bird surveys at Owens Lake, which began in 2007, aim to create a database that the DWP, environmental groups and state wildlife and lands authorities can use to develop more efficient and environmentally sensitive dust-control efforts.

By 2 p.m. Saturday, Dunn said the numbers were looking good for dozens of species.

"Excellent day; good conditions and lots of birds, even a few rarities: Lapland longspurs, Baird's sandpipers and a Herring gull," he said. "We're pleased with the results."

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Owens Lake attracting more than birds

First-ever festival in 2015 could be start of something big

Inyo Register Staff

"Great numbers of water birds are in sight along the shore – Avocets, Phalaropes and Ducks. Large flocks of shorebirds in flight over the water in the distance, wheeling about show en masse, now silvery now dark, against the gray-blue of the water. There must literally be thousands of birds within sight of this spot. En route around the south end of Owens Lake to Olancha saw water birds almost continuously."

That was back on Sept. 24, 1917, from Joseph Grinnel's, ornithologist with the Museum of Vertebrate Zoology in Berkeley, notes taken on the phenomenal number of migratory birds on the Owens Lake. Nearly 100 years later, a similarly awed account could be written at the same location.

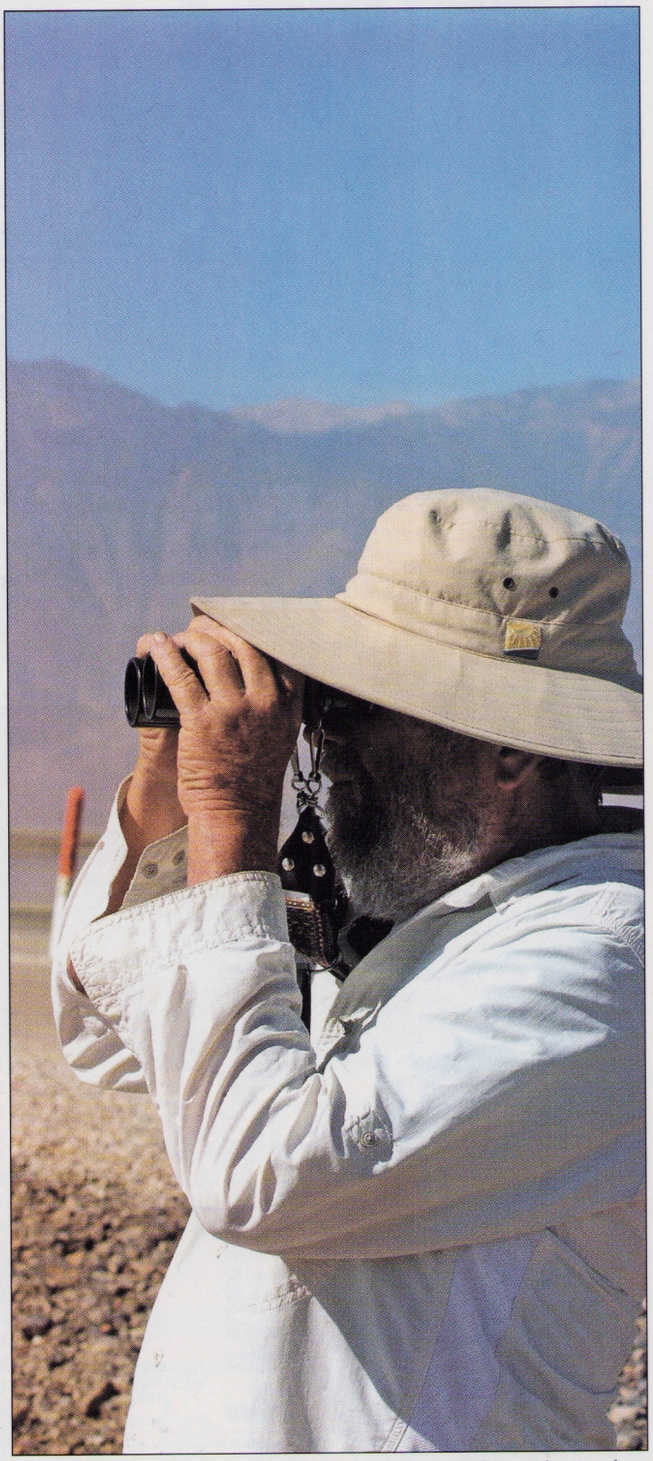
Owens Lake has been revitalized into a very effective Holiday Inn for shore birds and water fowl on spring and fall migratory routes that run from Alaska and the Arctic to Central and South America. All manner of birds, from the tiny sand piper to the American white pelicans, hold over in the Owens Valley, feeding off the brine flies and brine shrimp drawn by the algae along the miles of shoreline.

What started as a mandated dust control project has turned into 40 square miles of habitat that should bring birders from all over the globe to experience the same awe that Grinnell expressed in 1917. In a county dependent on tourist dollars, Owens Lake provides one more reason to come. And the number of dollars left by birders is impressive. A 2011 study of six birding areas in Ohio along Lake Erie indicated that $26 million was generated, creating 283 jobs. Those jobs, in turn, generated $8.9 million in personal income and contributed $1.9 million in tax revenues. According to a 2002 University of Arizona study, visitors to Ramsey Canyon and the San Pedro River Basin, both popular birding areas, spent between $10 to $17 million annually and created between 350 to 590 jobs.

While the Owens Lake is already on the map as a destination for birders, the Bird Festival scheduled for April 25, 2015 could be the start of a seasonal migration of tourists.

"This is world class," said Mike Prather, Lone Pine resident and Audubon Society member who has been involved in the 13 plus year process. "I've traveled all over the world to view wildlife and this is as good as it gets. It's a premier site."

According to Prather, the Bird Festival has the backing of Friends of the Inyo, the Eastern Sierra Audubon Society, the Audubon Society of California, the Interagency Visitors Center, the Lone Pine Chamber of Commerce and local businesses. The one-day format is still a work in progress, but Prather envisions tours of the lake and discussions of the habitat and the process of developing that habitat.



Lone Pine resident and Audubon Society member Mike Prather scouts for birds at Owens Lake, an area considered globally important for bird populations.

Register photo

The one thing the festival organizers don't have to worry about are the birds. Every year in late April, the Los Angeles Department of Water and Power and an army of volunteers gather for the Big Day Survey and the numbers and species have increased each year. On the 2013 count, held April 23, the total count was 114,999 divided among 72 species.

The final Owens Lake plan won't be fully realized until summer of 2015 at the earliest, but what's there now is enough to capture the attention of even soft-core birders or those with enough interest to drive the portion of roads currently open. Now, novice birders need to travel those roads with a Prather. "See those red-necked phalaropes," he said on a recent trip pointing to little birds paddling in crazy circles in the middle of one of the pools. "They're churning up food." The prominent bird on the Owens is the American avocet, an elegant, long-legged bird that commands the shore line. As impressive as it is wading in the shallows, Prather said seeing the avocet in flight, with its black racing-striped wings, is even more so. When the project is completed, there will be information kiosks, marked routes and viewing areas overlooking lake.

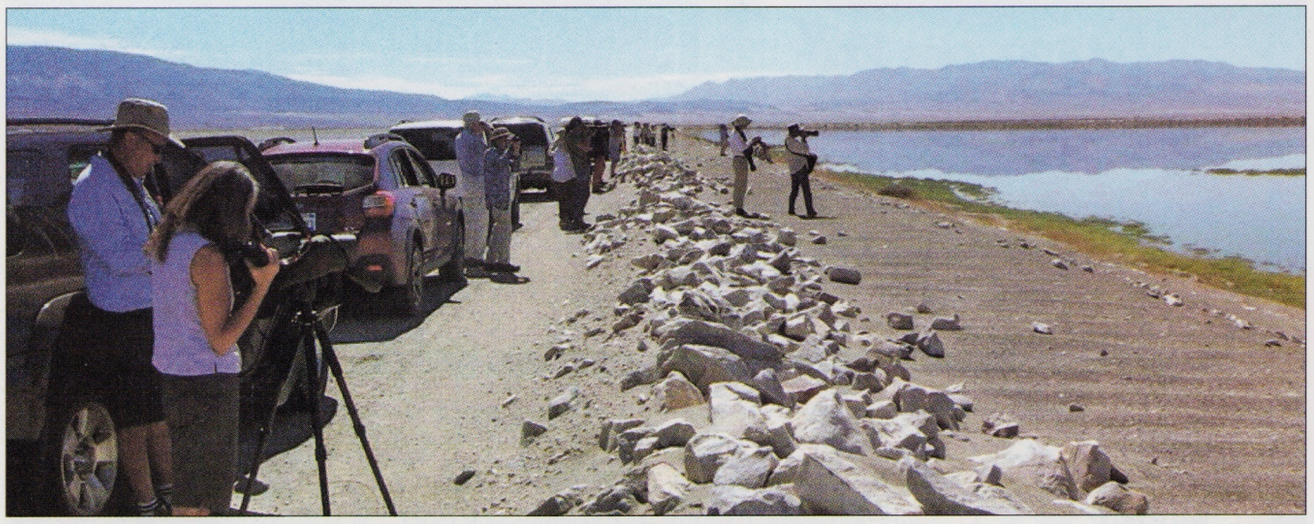
The back story is complicated and probably as interesting to wonks as the array of birds is to birders. Owens Lake is a terminal lake, in more ways than one in the past tense, of the Eastern Sierra runoff-fed Owens River. When the Los Angeles Department of Water and Power diverted the river water just south of Big Pine and sent it south, the lake dried up, fed only by the average 1.5-inches of annual rainfall. Fast forward to the early 2000s: the dust off the playa was at dangerously high levels and the wind-tunnel nature of the valley spread the dust into towns far beyond Keeler, a community that sits on the former shores of the Owens Lake. LADWP was court ordered to fix it and the easiest and quickest way to do that, according to Bill Van Wagoner, the department's dust control project manager, was to spread water across the far reaches. Water was quick and easy but not necessarily sustainable.

The Audubon Society, Nature Conservancy and a host of local residents saw the potential for also creating, or re-creating, exquisite habitat for those long-gone shorebirds. According to Prather, Van Wagoner saw the potential to use half the water and create a more diverse, sustainable environment for wildlife. What had begun as a Master Plan with multiple stakeholders and workgroups, became LADWP's Master Project with the potential to problem-solve at a high level. While there are still kinks to work out as the project heads into the CEQA process early next year, the consensus among those stakeholders is that there is so much good in the concept that the kinks should fall into place.

According to Prather, reducing the sheet flooding by half can create a more enhanced habitat. Large stretches of shallow water can be divided into smaller ponds, all within the optimal dimensions to draw migratory shorebirds and water fowl. Islands are being created to both reduce the amount of water necessary and to provide refuge for a variety of species including water mammals. The water can be taken off some ponds to create a marsh environment, habitat for an even broader range of wildlife; the same for mud flats.

The engineering challenge of recreating a dust-free basin, once 300-feet deep, with a 50-mile circumference and tilting west since the 1872 Lone Pine, is nearly mind boggling. The solution is evident: create terraces of pools some divided by built-up roads now used for massive equipment but eventually for birders and wildlife viewers. Water for the lake is turned out of the Los Angeles Aqueduct at Lubken Canyon Road and the Willow Dip. It bubbles into the pools through what amounts to an irrigation system on steroids.

One phenomena perhaps not cited in the documentation for the project is the impact of the environment on visitors. Watches, cell phones, devices and time tables are lost in the maze of waterways reflecting either the Sierra or the Inyo ranges. "Some mornings I'll tell my wife I'm going down to the lake to just look," admitted Prather, "and I don't get back home until 7 p.m."



During guided field trips and other events, the sturdy roads that traverse Owens Lake become bird-watching perches, where enthusiasts gather to take in scenes of huge pools of water and migratory birds.

Photo by Jon Klusmire

Eastern Sierra History

OWENS LAKE STEAMERS

By Dave Babb

In 1871 James Brady, Superintendent of the Owens Lake Silver-Lead Company's smelter at Swansea, had a dream. Early in 1872, at a site on the Owens River about two miles above the lake, construction began on Brady's dream - - a steamboat, destined to haul bullion from the Swansea smelter to awaiting freight wagons at Cartago.

Construction was interrupted for a short time when, in the early morning hours of March 26, 1872, the great Owens Valley earthquake struck with a force that would measure about 8.3 on today's Richter scale. The quake leveled most of the town of Lone Pine and the valley floor beneath Owens Lake tilted toward the west - - but the construction site on the river above the lake escaped serious damage.

The hull of the boat was floated to Swansea in May, where it was fitted with a boiler and a 20 horsepower engine, and on July 4, at an elaborate ceremony, Brady's young daughter christened the steamer which now bore her name - - the "Bessie Brady".

The "Bessie Brady", built at a cost of $10,000 , measured 85 feet in length with a 16-foot beam, and on its maiden voyage the steamer crossed Owens Lake carrying 700 bars of silver bullion. For seven years the steamer made daily trips from Swansea to Cartago and back, hauling 70 tons of bullion and returning with needed supplies and freight.

Historically, it had taken mule teams six days to haul the bullion around the lake shore on the sandy roads.

The "Bessie Brady" performed well, But editor P. A. Chalfant of the Inyo Independent complained that the boat should have been a stern-wheeler instead of propeller driven, because of the shallow depths of the lake.

In 1877, Col. Sherman Stevens constructed a landing at the mouth of Cottonwood Creek on the western shore of the lake. Stevens proposed to haul lumber and charcoal to the mines and smelter at Cerro Gordo and Swansea - - using a second Owens Lake Steamer he was building.

This new boat was smaller than the "Bessie Brady", but had a more powerful engine - - one taken from the 'U. S. Pensacola". Like James Brady before him, Col. Stevens named the new steamer after his daughter - - christening the "Mollie Stevens" in May of 1877.

That same month, Stevens contracted to furnish 30,000 feet of mining timber to the Union Consolidated Company at Cerro Gordo.

With the sudden decline of the Cerro Gordo mines in 1878, the need for daily trips by the two steamers was greatly reduced.

In 1879, the "Bessie Brady" was beached at Ferguson's Landing on the northwest corner of the Lake, and her machinery was removed. The "Mollie Stevens" continued to haul a load of lumber once in a great while.

In the 1880's some mines were reactivated and a new mill site was built at Keeler. The "Bessie Brady", being the larger boat, was towed to Keeler and refitted with the more powerful engine from the "Mollie Stevens"'.

Work was nearly completed when, on the afternoon of May 11, 1882, the steamer was destroyed by fire. She was never rebuilt or replaced, and the era of the Owens Lake steamers came to an end.

Eastern Sierra History

DRY UP OWENS LAKE - - IN 1888?

By Dave Babb

In January of 1888, the Inyo Independent reported that it had received a dispatch from New York indicating that H. M. Yerington, President of the Carson & Colorado Railroad, and his associates, recently concluded an arrangement with Thomas Chatard of the U. S. Geological Survey to take charge of their soda works in Owens Valley - - specifically, at Owens Lake.

Chatard had been sent out the previous summer to examine soda deposits throughout the west - - since he was the nation's leading authority on the subject. He was set to resign his government position in March of 1888 and proceed to Owens Valley, to undertake one of the greatest schemes ever undertaken in the west.

The plan was to divert the waters of the Owens River, allowing Owens Lake to dry up, and carry the water to Death Valley - - "thus making a garden of the most desolate wilderness of the west, and open up thousands of acres for settlement".

The group also planned to extend the Carson & Colorado narrow-gauge line to a point where it would connect with the Atlantic & Pacific Railroad - - "making a profitable railroad out of what has long been locally designated as an expensive and useless 'jerkwater' ".

The editor of the Independent, noting that Death Valley is some 100 miles to the east of Owens Lake with mountain ranges in between, suggested that; "perhaps the New York press agent contemplated training the pelicans, which are sometimes plentiful at the lake, to drain the lake by carrying the water in their bills over the mountains to Death Valley".

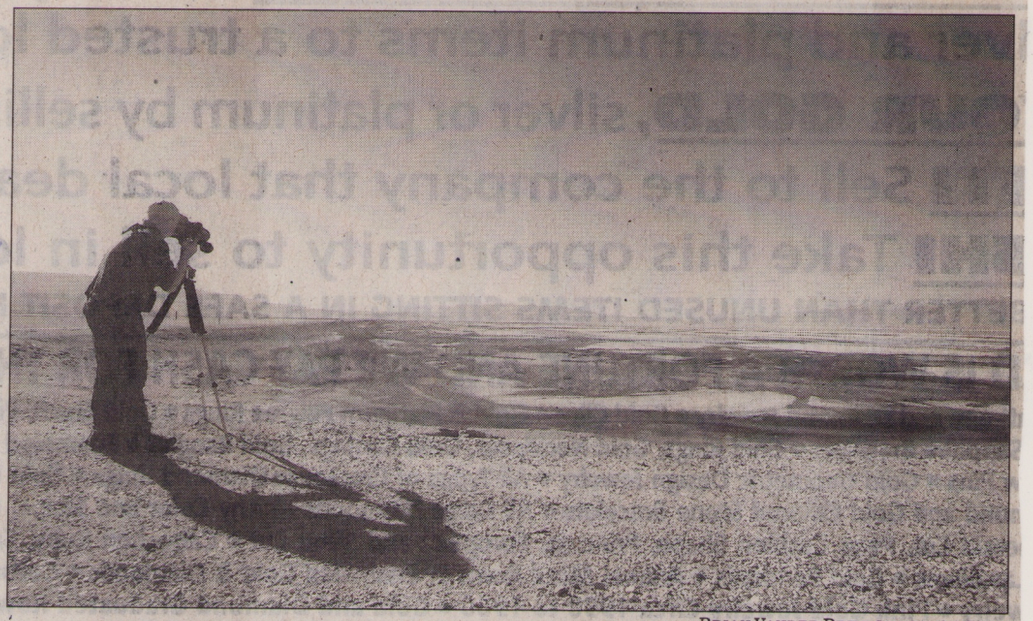
The drying up of Owens Lake for the purpose of harvesting the large quantities of soda found there was considered by many to be a good idea. One report maintained that there was enough bicarbonate of soda at Owens Lake to supply the needs of the entire world for 100 years. Most observers, however, suggested that diverting the water remaining in the river after irrigation of Owens Valley farms and grazing lands and carrying it south, via a canal, to the farmlands in Indian Wells Valley, would be a much easier undertaking.

In fact, several such canals were proposed over the years, but none were completed - - until, of course, the Los Angeles Aqueduct went into service in 1913. The lake finally was considered to be "dry" by 1927.

Owens Lake as solar plant?

DWP seeks to build a 660-acre pilot project on the dry lake bed — and avoid doing an impact report.

PHIL WILLON 12-2-09



BRIAN VANDER BRUG Los Angeles Times

FOR THE BIRDS: A solar array could mitigate dust at Owens Lake. Currently, the DWP regularly floods the dry lake bed, which attracts birds — and bird watchers, as above.

Nearly a century after Los Angeles drained Owens Lake by diverting its water to the Los Angeles Aqueduct, the city now hopes to generate solar energy on the dusty salt flats it left behind.

The Department of Water and Power's board of commissioners Tuesday unanimously approved a renewable energy pilot project that would cover 616 acres of lake bed with solar arrays — a possible precursor to a mammoth solar farm that could cover thousands of acres.

City utility officials hope that, along with generating power for L.A., the solar panels would reduce the fierce dust storms that rise from the dry lake bed. To comply with federal clean air standards, the DWP must control the dust that has plagued the Owens Valley for decades. Its efforts are part of a $500-million dust mitigation plan.

The solar project still must win approval from the California State Lands Commission, and that may be a difficult task. The commission's executive officer Tuesday said he had serious concerns about the size of the "demonstration" project and the DWP's plans to seek an exemption from a state environmental impact review.

Well aware of the nasty residue left by L.A.'s water grab in the early 1900s, city officials have taken special care to sell the idea to Owens Valley residents. So much water was pumped away from the valley that, afterward, many farmers and ranchers couldn't scratch out a living.

Interim DWP General Manager S. David Freeman traveled to Inyo County before Thanksgiving to meet with local government officials, environmental groups, ranchers and other residents in an effort to sell the solar proposal.

"It's really interesting and exciting, to say the least," said Inyo County Administrative Officer Kevin Carunchio. "Generally, the county has been looking at the potential for renewable energy projects to generate economic activity and fill the county coffers, since mining has been regulated out of business."

To help win over environmentalists, Freeman promised that the DWP would continue its program to flood portions of the lake bed with water to help control dust; the project currently uses enough water to supply 60,000 families. That shallow, ankle-deep flooding has created critical habitat for tens of thousands of migrating waterfowl and shorebirds.

"In general we support that idea. This small test project is in an area of the lake that has some of the least value for wildlife. It's a good area to put a project, to see if you can make it work and fix the dust," said Mike Prather of the Eastern Sierra Audubon Society.

DWP Commissioner Jonathan Parfrey, who serves as director of the Green L.A. Institute, said Tuesday he was "really enthusiastic" about the proposal but counseled DWP executives to keep Owens Valley residents well informed.

"We need to maintain good relations with the environmentalists in the eastern Sierra in order to provide them really strong assurances of the limited scope of this particular project, and an ongoing . . . conversation with them about any expanded projects," he said.

Michael Webster, the DWP's assistant manager of system development and procurement, told the board of commissioners that the agency has tested solar arrays in wind tunnels and determined that the structures, if properly aligned, can work as effective dust control measures.

The pilot solar project would generate an estimated 50 megawatts by 2012, or about 0.5% of L.A.'s energy needs. Mayor Antonio Villaraigosa has vowed to halt the use of coal-burning power plants by 2020 and — that same year — generate at least 40% of its energy from renewable resources.

The DWP estimates that the solar pilot project also could save 2,460 acre-feet of water a year — worth $1.7 million — because the solar arrays could be used to control dust in that portion of Owens Lake instead of flooding.

Because the State Lands Commission has oversight of the 100-square-mile Owens Lake, the DWP must convince the agency to lease the 616 acres for the pilot solar farm — and, later, to grant leases for any expansion.

Paul Thayer, the state commission's executive officer, said the agency is willing to discuss "some sort of balance of habitat restoration and solar generation on the lake bed."

But he cautioned that a 616-acre solar farm would be among the largest in California, and DWP's efforts to avoid an environmental review could pose a major obstacle. "We think the project is much too ambitious now, particularly for that kind of environmental review," Thayer said, adding that a smaller project might be more acceptable.

Thayer said DWP officials estimate that Owens Lake has the potential to be developed into a large-scale solar farm: "They envision up into the gigawatt range . . . thousands of acres."

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Owens Valley Water Accord

L.A. Times

■ Abraham Hoffman ("Closing a Chapter in the City's Sinful Water History," Commentary, July 20) believes the water wars with the Owens Valley are over. Wrong, Mr. Hoffman.

The Los Angeles Department of Water and Power has requested that the EPA declare the Mono Basin a "clean air attainment area," based on air quality at the Simis ranch. The problem is that experts predicted that the Simis ranch site would recover more quickly than the rest of the basin. Claiming that this site is representative of the whole basin is a fraud. Obviously the DWP hopes to stop the filling of Mono Lake before reaching the agreed level of 6,932 feet, using this "clean air attainment area" designation as an excuse.

Are we paranoid about the DWP? I think not. DWP lost in court, but it still has a lot of those lawyers on staff. DWP is using distorted data. And, in a recent press conference an official of the DWP said that if they need more water from the Mono Basin, they will just "go back to the Water Board and ask for it."

Ignore the lessons of "Chinatown" and "Cadillac Desert" at your peril.

CHARLES G. BRAGG JR.
Bay Audubon Society
Santa Monica

■ A little-appreciated fact about the Owens Lake dust puzzle is that the DWP really did not dry up the lake. The DWP kept it that way. Owens Valley farmers had it just about dry. The status of the lake today would be most interesting if the DWP had never been in the picture.

The lake was about 80% empty when the city started pumping water in 1913. The farmers of Owens Valley were on a water-use course that would have completely dried the lake in about the same time the city did.

The DWP should be congratulated for assuming responsibility for the problem. The California State Lands Commission is the owner of most of the dry lake: Only a very small portion is owned by the DWP.

ARTHUR WALLACE
Professor Emeritus, UCLA

■ The Times should have been more militant in its editorial ("Luck for Owens Lake at Last," July 17), on the Owens Lake pollution solution. This is a paltry and pitiful compromise that forces the nearly 40,000 residents in the Owens Valley to continue sucking giant, swirling funnel clouds of white dust loaded with tons of arsenic and other toxic metals into their lungs for at least eight more years.

Last year the Great Basin air district ordered Los Angeles to treat, by 2001, 35 square miles of the 110-square-mile lake bed at a cost of $300 million. Los Angeles caused this problem, it should be responsible for correcting it with all deliberate speed. Complying with this order will ensure that the Clean Air Act's deadline of 2006 would be met. Now because of this compromise it becomes a wait-and-see game with the health of the Owens Valley residents at stake.

ROBERT C. PIKE
Canyon Country

Blowing in the wind

3-3-2012

The Great Basin Unified Air Pollution Control District (Great Basin) oversees implementation of air quality standards in the Eastern Sierra, including the Owens Dry Lake. The lake is the site of the single-largest pollution source in the United States, dwarfing anything close. The cause of the pollution is dust which blows off the dry lake bed. It is particularly significant in high winds, as we in the Eastern Sierra are well aware. The lake is dry and dusty because DWP diverted most of the water that once filled the lake, into the Los Angeles aqueduct system.

However, over the last decade or so, Great Basin has worked with DWP and the State of California Air Resources Board (Air Board) to clean up the dust pollution caused by DWP. This is being accomplished through an agreed-upon process of systematic Air Pollution Control District Officer "Orders" which carry out federal and state air quality standards. These Orders have resulted in dust controls on 40 square miles of the lake bed, with another five square miles currently undergoing control; close to the 48-plus square miles originally envisioned for mitigation. The amount of DWP-caused air pollution has been reduced from 100 times over the federal standard to 10 times over the standard; still well over the standard but nonetheless remarkable progress to date! The end is in sight with just a few square miles left.

An Order to continue the clean-up, involving 2.9 square miles all within the lake bed, has been recently issued. But DWP is balking, kind of like a child who refuses to pick up the last pair of dirty underwear in their room. So why the sudden change on DWP's part? Why have they refused to sit down with Great Basin staff and work on ways to fulfill the Order (several options are available to them)? Why have they appealed the Order to the California Air Board? Why have they appealed the Air Board's legal process on how the appeal will be handled? Why have they engaged an outside law firm to the tune of $1.4 million, not to mention costs for their on-staff attorneys, to fight the Order and file lawsuits? Why have they refused to pay required funds (past due in January) to Great Basin to defend the Order? Why have they filed a separate lawsuit to prevent implementation of this payment? Why have they requested Great Basin to pay DWPs attorney lawsuit fees? Why are they now attempting through misleading public rhetoric to portray Great Basin as the villain?

These questions and others were posed to DWP's General Manager and his suited entourage of attorneys at our last Great Basin meeting. Board members and staff pleaded for sanity. We pleaded for DWP to complete the job they are so close to completing. We pleaded for them to work with us to meet the standards they are required by law to meet. Sadly for all involved, DWP is apparently headed down a much dirtier, dusty path.

I again plead with DWP for common sense. DWP is invited to conscientiously work with Great Basin staff on solving the dust issue at the lake; they are so close. They are encouraged to divert the attorney's millions from lawsuits to dust controls. They are urged to implement their "commitment to the Owens Valley environment" (McDaniels, Feb. 23, 2012, *The Inyo Register*) on actually enriching the Owens Valley environment, instead of enriching lawyers. They are encouraged to spend their public relations dollars on air quality compliance instead of shallow editorial spin, as shallow as Owens Lake itself.

Great Basin stands ready to assist in completing the job. Let's stop dust, instead of dollars, from blowing in the wind.

Personal letter by,

Larry Johnston,
Chairman,
Great Basin Unified APCD

Strong support for Ted Schade

I for one refuse to stand by and not support Ted Schade, our Great Basin Unified Air Pollution Control officer, and my friend, who is currently under attack by the City of Los Angeles. Ted is tirelessly working to ensure public health in the Eastern Sierra and to enforce the laws of our country. All of us who live here must oppose the strong interests who seek to once again divide and conquer the "Owens Valley folk." Wolves hunt in that fashion.

Please remember that Los Angeles caused our regional health hazard at Owens Lake and for nearly 80 years had the policy of, "Let them eat dust." They are nearly finished. Some 80-90 percent of the dust has been controlled. Common sense says, "Finish the job!" We are so close to not having our children staying in at recess due to unhealthful air in Lone Pine. Soon our neighbors with asthma, emphysema and other respiratory challenges will be able to live more comfortably.

The callousness of the LADWP attack on our communities is such an offense. They cry "poor" yet they gifted the Los Angeles City Council $258 million this year. They plead for reason and yet fight Inyo County over vegetation damage from DWP groundwater pumping, sue over water in Mammoth Creek, break a commitment to continue funding science at Mono Lake and after nearly 10 years still have not revegetated acres of abandoned farmland in Laws that choke Bishop with dust when the strong north winds visit us.

The attack on Ted Schade and the Great Basin Unified Air Pollution Control District is an attack on ALL of us. The Los Angeles suit also attacks the Federal EPA and the Clean Air Act, the California Air Resources Control Board, The California State Lands Commission and virtually anyone remaining standing after LADWP's initial shock and awe. This behavior by Los Angeles and their agent LADWP is familiar behavior and policy we had hoped would remain in the past. This behavior needs to be exposed and thwarted.

I sincerely appeal to everyone to stand up for clean air, the laws of America and for our champion, Ted Schade.

11-1-2012

Mike Prather
Lone Pine

L.A. takes shine to another Owens Valley product: sun

The DWP wants to transform area into a solar power source.

PHIL WILLON
REPORTING FROM LONE PINE

First it was silver ore that streamed to Los Angeles from the rim of the Owens Valley, then the water from the valley floor.

Now, L.A. has come back for the sunshine.

The Los Angeles Department of Water and Power, the agency responsible for turning Owens Lake into a dusty salt flat and snatching up nearly every acre from Lone Pine to Bishop, has its sights on transforming the Owens Valley into one of largest sources of solar power in America.

Interim DWP Chief S. David Freeman says the valley on the dry side of the Sierra Nevada is blessed with the "best sun in the country." He envisions a gigantic solar array that could cover 80 square miles of dry lake bed and nearby flatlands, a sea of photovoltaic cells roughly the size of Cleveland that would generate up to 10% of all the power produced in California while simultaneously calming the region's fierce dust storms.

Owens Valley residents crowded into a Methodist church recently to hear Freeman's pitch. Though intrigued by the idea of turning the scarred earth at Owens Lake into a source of clean energy and local jobs, many still chafed at L.A.'s near feudal reign over the valley.

"Given our history with them, there's skepticism," said Mark Bagley of the Owens Valley Committee and Sierra Club, which took successful legal action to force the DWP to restore the Lower Owens River. "But it's promising if it's done right, the right way."

The fast-moving project has become essential to Mayor Antonio Villaraigosa's promise to end the city's use of coal-fired power by 2020, a course he vowed would be "irreversible" by the time he leaves office in three years.

Villaraigosa also wants to use the lucrative contracts for the solar array as leverage to bring renewable-energy companies and new manufacturing jobs to Los Angeles.

BRIAN VANDER BRUG Los Angeles Times

BRIGHT IDEA: Scott Kemp, a cattle rancher in the Owens Valley, looks over grazing land near the site where the L.A. Department of Water and Power wants to place photovoltaic cells. He supports the proposal.

2-2-2010

The grand scale of the project has raised concerns, Bagley said, in part because Freeman has acknowledged that only a portion of the electricity generated by an Owens Valley array would be transmitted to Los Angeles. The rest would be sold to other utilities around the West, with an ample share of the profits heading to the sprawling metropolis 180 miles southwest.

DWP limits the amount of power it takes from any one source to avoid the danger of becoming over-reliant on a single project. The utility is already negotiating with Edison Co., Pacific Gas & Electric and independent power producers to divvy up the rest.

With his folksy, homespun manner and trademark white cowboy hat, Freeman has traveled to Inyo County twice since November to sell the idea to ranchers, environmentalists, local politicians and other residents — and salve any lingering animosity.

"We've had about 80 years of history up here where DWP did stuff and then told people after it's done," Freeman said during a two-hour town hall Jan. 11. "I'm trying real hard to start a new era where we bring the people . . . who live here into our thinking process before we decide to do something."

But, first the DWP must show that a solar array can eliminate the wind-blown dust storms born on Owens Lake.

When L.A. diverted the water feeding Owens Lake and sent it rushing into the Los Angeles Aqueduct in the early 1900s, the 100-square-mile lake bed became one of the largest sources of hazardous dust in the nation. To comply with federal clean air standards, the DWP already has spent $500 million on control measures, covering close to 40 square miles of the lake bed with shallow water or fields of vegetation. Still, the airborne pollution exceeds federal limits by 10 times.

Ted Schade of the Great Basin United Air Pollution Control District said the DWP must prove that solar panels will act as physical barriers to slow the gale-force winds that sweep across the lake bed. Specifically, the array needs to slow the typically 60-mph wind to 15 mph. Preliminary wind tunnel tests conducted for the DWP, using miniature models of a solar array, indicate that the project would work, Freeman said. The utility wants the California State Lands Commission, which has oversight of the dry lake, to let it build an 80-acre pilot solar farm so it can conduct more extensive testing.

Harry Williams, a lifelong resident of the Owens Valley and member of the Paiute Tribe, praised the solar proposal but told Freeman that the DWP could not be trusted. He reminded Freeman that a regional air quality agency had to force the DWP to mitigate the Owens Lake dust, and a judge similarly ordered it to restore the Lower Owens River, which also went dry after the aqueduct was built.

"You're a great salesman, but everybody here knows they have to get you to court to do anything," Williams said.

Inyo County Supervisor Susan Cash complained that DWP officials still haven't made good on an agreement to sell 75 acres near towns in the Owens Valley and for years have delayed the county's effort to upgrade Eastern Sierra Regional Airport, located on DWP land.

In Inyo County, 98.3% of the land is owned either by the federal and state governments or the DWP.

Freeman said he wants to fix that but spent most of his recent visit preaching about renewable energy and why the Owens Valley — which averages more than 300 sunny days a year — is a prime location.

He also tossed out plenty of promises: Construction would create hundreds of local jobs; 92% of the DWP's 310,000 acres in the Owens and adjacent Mono valleys would remain off-limits to development; the DWP

OVER

Photographs by BRIAN VANDER BRUG Los Angeles Times

NATURALIST: Steve McLaughlin walks along a berm at Owens Lake. He said DWP land north of the lake should be left undisturbed.

would restore a larger portion of Owens Lake, creating mud flats, ponds and other essential wildlife habitat. And, finally, using solar panels to control the dust, instead of shallow flooding, would save water, meaning that cattle ranchers leasing DWP lands would get more water for their grazing fields.

"I want this project to benefit the people up here in every way we can think of," he said.

Owens Valley residents are more divided about Freeman's desire to extend the solar array onto 30 square miles of DWP land north of the lake, up to the town of Independence.

Steve McLaughlin, a local naturalist, said that land should be left undisturbed since the DWP can generate all the solar power it needs from solar panels on the dry lake.

Residents won't support "using that [Independence] land simply as a revenue generator, to sell power all over the West," he said.

However, cattle rancher Scott Kemp, who leases a portion of that DWP land, disagrees with McLaughlin.

"I think it's a tremendous idea," Kemp said of the DWP plan. "Alternative energy has got to happen."

Solar farm

The DWP hopes to build a large array of solar panels on the dry bed of Owens Lake or on Department of Water and Power-owned land north of the lake.

Los Angeles Times

BRIAN VAN DER BRUG Los Angeles Times

CHALLENGES: Steve McLaughlin, president of the Bristlecone chapter of the California Native Plant Society, walks near Owens Lake.

Owens Lake plan stymied

Testing of solar panels is impeded by wicked wind, corrosive soil, and changes at DWP.

LOUIS SAHAGUN
REPORTING FROM LONE PINE, CALIF.
PHIL WILLON
REPORTING FROM LOS ANGELES

The Los Angeles Department of Water and Power's ambitious plan to put solar panels on 80 square miles of dry lake bed and flatlands east of the Sierra Nevada range has run into a daunting problem: extremely caustic mud in an area where it hoped to build an 80-acre pilot project.

Preliminary engineering tests show that if solar panel platforms were placed at the southern end of the nearly dry 110-square-mile Owens Lake, they would sink as much as several inches into extremely corrosive soil.

The DWP now plans a much more modest five-acre pilot project on firmer sandy soil at the north end of the lake.

"It's going to be more challenging than we thought to do it on the lake bed," DWP engineer Bill Van Wagoner said in an interview. "But if everything pans out, the north end of the lake could potentially provide two square miles of solar development. We can always hope, right?"

The soil problem, however, is only one of several issues that have begun to raise fresh doubts about the entire project's pace and potential for generating clean energy and new jobs.

In February, then-DWP General Manager S. David Freeman made a rare visit to the Owens Valley to present the proposal to transform the lake bed and vast tracts of desert north of it into one of the largest sources of solar power in the United States.

The project, Freeman said, would generate jobs in financially struggling Inyo County, bring renewable energy companies to Los Angeles and generate more than 10% of all the power produced in California.

Environmentalists and health advocates were particularly pleased with promises that the project would save water by relying on solar panels, instead of huge pools of Owens River water, to limit choking dust storms that sweep across dry parts of the lake bed.

Some of the saved water could be used to restore wetlands for migrating shorebirds and waterfowl.

But the prospects of developing solar arrays on Owens Lake have dimmed since Freeman stepped down as DWP chief in April.

In an interview, the DWP's new interim general manager, Austin Beutner, said that the utility still has plans to install solar arrays on the lake, but that the scope of that project would largely depend on the engineering challenges, cost and amount of renewable power the DWP would need from the Owens Valley.

Beutner said his plans for generating solar power include both the lake and DWP-owned desert highlands to the north and that, at this point, neither is favored over the other.

Pilot solar arrays will be tested in both areas.

"We're looking at all the

[See **Owens Lake,** AA6]

Owens Lake region faces another setback

[**Owens Lake,** from AA1]
different possibilities," Beutner said. "This is going to unfold very slowly."

The viability of installing solar arrays on the lake bed would depend to a great degree on whether they can be designed to effectively slow the gale-force winds that sweep off the mountains to create hazardous dust storms in the region, he said.

"We have to look at what actually works," Beutner said.

"Solar is one arrow in a quiver of possibilities that we're looking at, but it's certainly not the only solution."

Here in the dusty heart of the Owens Valley between the 14,000-foot Sierra Nevada on the west and the 11,000-foot Inyo Mountains on the east, that kind of talk has elicited disappointment and skepticism.

"It's a bit of a letdown," said Owens Valley botanist and environmental activist Michael Prather.

"The thought of Owens Valley becoming a capital of solar energy production had triggered plans for training school kids to take solar jobs and of building warehouses and parking structures in a place where new jobs are all but nonexistent," he said.

It is not the first time top Los Angeles officials have reneged on their grandiose plans for the Owens Valley.

In 2004, then-Mayor James K. Hahn heightened expectations by supporting an effort to hammer out a plan by the end of that year that would have eliminated the possibility of subdivisions on the 320,000 acres of watershed the DWP has owned for a century.

BRIAN VAN DER BRUG Los Angeles Times

'A LETDOWN': "The thought of Owens Valley becoming a capital of solar energy production had triggered plans" for jobs and growth, says Owens Valley botanist and environmental activist Michael Prather.

After a tour of the valley less a month later, Hahn disappointed environmentalists by saying that he had no preferred plan and that the process would take "as long as it takes."

Although the technology exists to build solar array foundations capable of reducing sinking, coping with corrosive soil and blocking strong winds, Ted Schade, head of the regional air quality district, said, "The real question is this: Can Los Angeles afford it?"

Richard Cervantes, chairman of the Inyo County Board of Supervisors, agreed. "In my personal opinion, they'll never build a massive array of solar panels out there on the lake bed. It's too expensive.

Some people say it would compare with the building of the pyramids in ancient Egypt."

DWP solar project engineer Yamen Nanne said the utility plans to disclose details about the project's future in August.

In the meantime, a growing concern is that the DWP will first develop its 48 to 58 square miles of undisturbed desert scrub lands north of the lake bed, where it would face fewer costly geotechnical challenges.

Developing that land would require large-scale leveling of wind-deposited soil anchored by desert shrubs, possibly creating a new source of dust storms next to the recently rehabilitated Lower Owens River, according to botanist Prather.

Striding across a patch of knee-high greasewood shrubs beneath a thicket of towers and transmission lines a few miles north of the lake bed, Prather asked rhetorically, "Is it fair for the Owens Valley to shoulder so much of the impacts of developing solar power for the good of Los Angeles and the rest of the state? After all, we have already sacrificed so much."

The controversy over the proposed solar park underlines the historic acrimony that has simmered between the DWP and Owens Valley residents since the early 1900s, when the city had agents pose as farmers and ranchers to buy land and water rights in the valley, then began building an aqueduct to slake the thirst of the growing metropolis 200 miles to the south.

The city's massive network of water diversions associated with the L.A. Aqueduct eventually turned Owens Lake into vast salt flats prone to fierce dust storms.

"I just hope they don't give up on Owens Lake," Prather said.

"But that might be dreaming at this point."

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Energy plans

A plan to build solar panels on the dry bed of Owens Lake has run into engineering problems.

Source: Times reporting

Los Angeles Times

Celebrating public access to an 'accidental' bird habitat

Project includes three different sites so visitors can enjoy the area's nature

By Jon Klusmire 5-3-2016
Register Correspondent

Inyo County Second District Supervisor Jeff Griffiths talks to Jennifer Duncan, middle, and Sharon Avey, both of Independence. Gordon Meyers and Robin Black, a landscape and wildlife photographer who has been documenting the Owens Lake's transformation, also were on hand for the Friday ceremony that officially unveiled the Owens Lake Trails Project.

Photo by Jon Klusmire

"I once said 'we are not here to create a bird sanctuary,'" as part of the massive Owens Lake Dust Control Project, conceded Richard Harasick, director of Water Operations for the Los Angeles Department of Water and Power, who spent years spearheading the department's lake work. "But a funny thing happened on the way to dust control," he said. "We created a world-class bird habitat" on the lake, "almost inadvertently."

Once LADWP was convinced the system of ponds, shallow flooding and mud flats used to subdue dust had attracted hundreds of thousands of migrating birds and waterfowl, the department added "maintain habitat" to its list of goals on the lake, with dust control still at the top, he noted. Now, after 15 years of dust work has succeeded in quelling virtually all the "fugitive dust" coming off the lakebed, LADWP was ready to check off another mandate on its lake list: providing public access to the habitat without disturbing the birds, and creating an educational and recreational component for the project.

The California State Lands Commission, which actually owns the lakebed, mandated the public access and recreation component of the dust control work.

"Sometimes we come to the table kicking and screaming," Harasick said, in a refreshing display of frankness, "but when we get there, we come in style."

The "style" he was referring to was the $4.6 million Owens Lake Trails Project, which added three major public access points, large-scale "land art," architecturally interesting structures, about four miles of walking trails, and other public amenities to the Owens Lake's harsh landscape.

To celebrate the completion of this rather unusual bit of dust control work, LADWP invited the pubic to a grand opening ceremony at the Eastern Sierra Interagency Visitor Center south of Lone Pine on Friday, followed by tours of the new additions to the lake.

Harasick introduced Phil Kiddoo as "the man who actually has the badge," since he is the air pollution control officer for the Great Basin Unified Air Pollution Control District. The district compelled LADWP to undertake the dust control work, which started in 2001, and has battled the department in court and on the ground to complete the job.

"At least I brought a badge, not a gun," Kiddoo

See TRAILS ▶ Page 3

TRAILS

Continued from front page

noted, with a grin.

Kiddoo said, "we've come a long ways in the past 20 years." It's hard for most people to understand the scope of the work on the lake, he noted. About 75 tons of dust came off the lake every year, which made the 110-square mile lakebed the largest dust polluter in the country. Now, at a cost to LADWP of about $1.2 billion, Owens Lake is home to the largest dust control project in the country, with 48.6 square miles of lakebed holding dust control measures that have eliminated about 96 percent of the dust hazard.

The shallow flooding, which put millions of gallons of water on the lake, also restored a "California Wildlife Heritage Site with hemispheric importance," said Mike Prather, of Lone Pine, who has been working on lake-related dust and wildlife issues for decades. With the water came "hundreds of thousands" of migrating birds stopping at the lake on migratory treks from South America to the Arctic. Along with the 120 different species of birds came a designation: An Audubon Owens Lake Important Bird Area.

But, again, LADWP was interested only in controlling dust, not restoring bird habitat. Prather said he got "thin hair because I was patted on the head" for so long when talking to LADWP about birds and the lake.

But persistence paid off. Eventually, with the help of multiple state wildlife agencies and advocacy groups, "protecting this significant wildlife," made it on LADWP's lake list. More recently, those groups worked along with LADWP to use less water on the lake while protecting habitat. "That was the grand bargain," Prather said. "Everyone involved should be proud of this outcome."

Kathy Bancroft, the tribal historic preservation officer for the Lone Pine Paiute-Shoshone Tribe, related how another item made it on the LADWP's to-do list. The lake had sustained native people for thousands of years, and was sacred, she pointed out. Thus, tribes wanted cultural resources on the lake documented and protected. But LADWP held that since the lake only dried up in the 1920s due to the Los Angeles Aqueduct diverting the Owens River, which used to sustain the lake, the dry lakebed would not contain any historically significant sites. But as monitoring began, "cultural resources were everywhere," Bancroft said, and included bits of pottery, house rings, projectile points and more. At first, the monitoring was more like "witnessing destruction," she noted, but over time "that gave way to cooperation and creation of a cultural resources task force."

"I can honestly say there is a sincere effort by all partners to do the right thing."

Perry Cardoza designed another significant change in the dust control work. As the lead designer and vice president of Nuvis Landscape Architecture, he said he was charged with "bringing landscape architecture to the table to solve problems usually solved by engineers."

The first time he toured the barren, T-30 dust control sector of the lake project, his reaction was, "what have I gotten myself into."

Inspiration came from the lake itself, in the form of the snowy plover. Instead of a bird, "I saw the holy grail," Cardoza said. That led to the creation of "a heartfelt piece of art."

The plover's wing shape inspired the three columns that make up the Plover Wing Plaza, the largest structure Cardoza created. The steel roof has plover-like shapes cut into it so a bird-like shadow is cast on the plaza. Circular elements recall the plover's nest. Cardoza included many circular shapes in working dust control areas, and paths and roadside pull-outs and walkways also have a curving, circular shape. At the Dirty Socks and Boulder Creek sites, several round steel pipes, inspired by the siphons of the Los Angeles Aqueduct, offer shade and place to sit.

At all three sites, either roads or walkways, take visitors to the edge of shallow ponds to accommodate bird-watching at a respectable distance, or to just enjoy the striking views.

The lake also inspired the largest features of "land art" created by Cardoza. Fourteen rock mounds angle up out of the ground and the water, by the plaza. They are intended to look like white-caps on the lake. And they succeed in reaching one of Cardoza's goals to mix landscape architecture and dust controls, since they function as both art and as dust control elements that break up the wind on the lake.

Later this week *The Inyo Register* will have a review of the Owens Lake Trail Project.

A brochure outlining how to access the three Owens Lake Trail Project sites is available at the Eastern Sierra Interagency Visitor Center South of Lone Pine.

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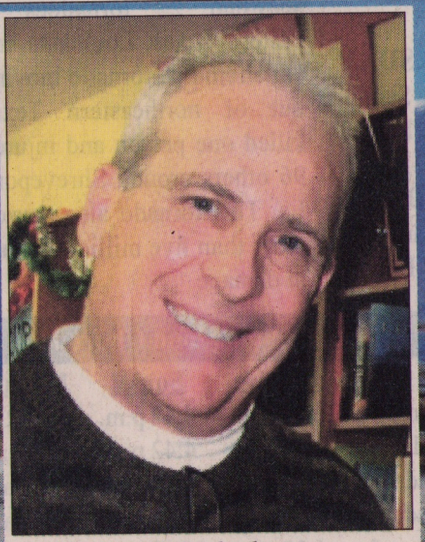
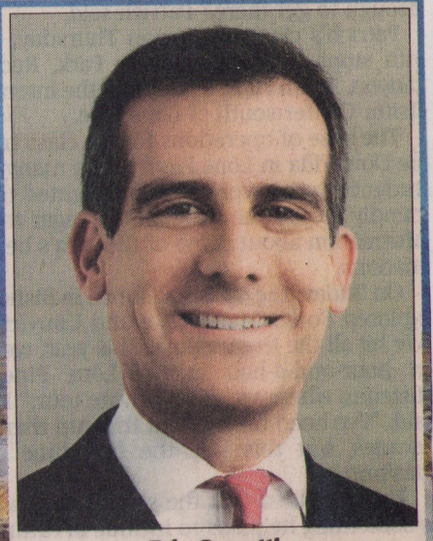
L.A., Great Basin strike Dry Lake accord



Ted Schade,
Air Pollution Control Officer,
Great Basin APC District



Eric Garcetti,
Mayor,
City of Los Angeles

Los Angeles Mayor Eric Garcetti and the Great Basin Unified Air Pollution Control District Air Pollution Control Officer Ted Schade announced an agreement over the implementation of dust control measures on Owens Lake Friday. The agreement caps the amount of dust control Great Basin can order, and ensures that LADWP reduces the amount of dust blowing off the lake as a result of LADWP's water exporting activities that have dried Owens Lake (above).

Photo courtesy L.A. Mayor Eric Garcetti's office

The Owens Valley dust-up

11-16-2014

L.A. reaches a settlement over how it will control dust blowing off the dry Owens Lake bed.

L.A. Times

ONE HUNDRED and one years after Los Angeles opened the aqueduct to draw water from the Owens Valley, the city has reached a settlement over how it will control dust blowing off the dry Owens Lake bed. The deal will save L.A. hundreds of millions of dollars in the coming years and free up more water for Angelenos. It will also, hopefully, be an important marker in L.A.'s history in the Eastern Sierra — the moment all sides finally agreed on how much was enough to fix the environmental catastrophe created when the city drained the valley to sustain a growing metropolis 200 miles away.

For decades, winds blowing through the valley kicked up fine salts and dust from the dry lake and produced some of the worst particulate air pollution in the U.S. Facing lawsuits and environmental orders, the L.A. Department of Water and Power agreed to pay for and implement dust-control measures in the late 1990s, beginning with watering down 11 square miles of lake bed. But the utility has continually battled with the Great Basin Unified Air Pollution Control District over how much terrain it should be responsible for dust-proofing. What began as 11 square miles eventually grew to 45 square miles that needed to be watered or controlled, at a cost of $1.3 billion for L.A. ratepayers so far. In some years, the DWP was using 95,000 acre-feet of water to flood the lake bed, enough to supply San Francisco.

The fight became even more pitched in 2012 when the Great Basin district ordered the DWP to control dust on another 3 square miles, at an estimated cost of about $400 million. The DWP responded with a lawsuit challenging the order, as well as a public relations campaign that slammed the district's staff for moving the finish line and blaming the utility for naturally occurring dust. It looked as though L.A. was going to spend another decade in court.

But new leadership at City Hall softened the DWP's hard line. Mayor Eric Garcetti, his new commissioners and City Atty. Mike Feuer reached out to Great Basin to mend the relationship and find a compromise. Over a year, they negotiated a deal increasing the area over which L.A. will be responsible for imposing dust control measures to 53 square miles of lake bed — and no more. And it limits Great Basin's ability to issue new orders to the DWP. Plus, the DWP is allowed to use less water-intensive measures, rather than flooding the area. As a result, L.A. will save nearly 3 billion gallons of water this year, enough to supply 43,000 Angelenos.

Of course, this settlement alone will not end the struggle over water in the Eastern Sierra. Residents, ranchers and environmentalists want to keep as much as possible in the Owens Valley, while the DWP wants to use it to replace more expensive, purchased water. Still, the agreement is a sign that peace is possible even after 100 years of warring over water.

Ideas on energy and growth

1-28-2010

I was sorry that I missed the opportunity to attend the meeting with energy expert S. David Freeman. There is a serious question that I would have liked to have asked him. It is probably just as well this didn't happen, since the focus of the meeting was on local issues and my question would not have addressed that.

However I would still like to know whether or not he thinks that photovoltaic energy generation is a valid solution of our energy problems in the long run. Certainly the operation of solar farms is less dirty than coal and would relieve us of the burden of depending on unreliable global oil supplies. However, there well may be environmental risks in the massive manufacture of photovoltaic cells that have not yet come to light. There are certainly a lot of serious problems with disposal of waste from the myriads of other electronic devices.

Of greater concern to me is the false concept that the use of sustainable solar energy can supply most of our energy needs for the more distant future. This concept ignores the fact that there is a limit to that amount of such energy available, but there is no limit to the aspirations of the human species to continue our exponential growth.

A look at the figures below shows clearly that we are not all that far away from reaching the energy limit.

The June 2009 issue of the *BP Statistical Review of World Energy* provides the following figure for worldwide primary energy consumption for 2008: 11294.9 million tonnes of oil equivalent (toe). Converting toe/year to electrical units gives 17.14 terawatts. Earth's solar influx is 1.7439 x 10 exp 17 watts, so we we're using just under one part in 10,000 or 0.01 percent of the solar influx.

This is not the full story, since the report considers only the following sources of primary energy: oil, natural gas, coal, nuclear energy and hydroelectricity.

It does not include photosynthesis, which is the primary energy source for a great many of our essential products: food for both people and domestic animals; wood for fuel, which is still used to a large extent for household heating in many areas; wood for construction and for furniture; wood for pulp for paper; natural fibers; compounds like latex and oils that are derived from plants and used as chemical feed stocks; plant-derived drugs, legal and otherwise, including alcohol and nicotine.

Regarding food, the average person requires about 2,200 calories/day, a rate of about 100 watts. For the current population of over six billion, that comes to 600 GW or 0.6 TW. Photosynthesis of food is not a particularly efficient process, since only parts of the plants used for food are edible. I have no data for this available, but the solar energy needed to produce the world's food supply must be much, much greater than 0.6 TW. The effect is multiplied even further if plant material is used to feed animals, which are in turn used as meat.

The BP report starts with 1998, so we can see what has been the recent trend in energy use. The primary energy consumption in 1998 was 8,888.5 toe. The ratio of 2008/1998 comes out to be 1.27, so a 27 percent increase for the decade. If this trend continues, it would result in a doubling in slightly less than 30 years or a factor of 10 increase in less than 100 years. That would put us at requiring 0.1 percent of the solar influx. Since solar cells are much less than 100 percent efficient, this would mean using over 0.1 percent of the earth's surface for solar energy collection. In 200 years it would be a full one percent of the surface. With the oceans taking up 70 percent of the surface, it would mean using over 3 percent of the land area. In 300 years, it would be over 30 percent of the land area, which would not leave any where near enough for raising crops and, by 400 years, we would require the earth to be covered with a shell of 100 percent efficient solar cell to supply the energy demand.

Obviously this is an absurd outcome, but the point I am trying to make here is that continuous exponential growth is impossible. However, the devotion of human society to growth is so engrained that we completely ignore the obvious limitations and continue on as if there were no problem.

In regard to the current concern about global warming, in a sense it is a red herring in that it diverts attention from the fact the basic problem is this insane concept that growth is great and inevitable. The combination of population increase and a simultaneous increase in the use of energy per capital have put the species on the fast track to disaster.

At the age of 85, I don't really have any direct vested interest in the future, but I find it sad to face the fact that the human species seem determined to destroy this marvelous biosphere of which it is a part.

Robert E. Spenger,
Professor of Chemistry,
Emeritus
Big Pine

BRIAN VANDER BRUG Los Angeles Times

POWER SOURCE: Rancher Scott Kemph supports a plan for solar facility in the Owens Valley.

2-5-2010

Solar and the Owens

Re "L.A. takes shine to another Owens Valley product: sun," Feb. 2

Periodically, the hidebound Los Angeles Department of Water and Power shakes off its inertia and undertakes a project worthy of its size and of the times.

Not coincidentally, Interim DWP Chief S. David Freeman seems to ride into town just in time with his ability to think big and to understand the long-term benefits of renewable energy.

I encourage the residents of Owens Valley and Los Angeles to move with all deliberate speed on this project.

One more comment: The notion of only producing power for consumption within Southern California is a wrong one. We have been importing dirty-coal electrons for decades; it is high time we had a cash export, and we can proudly offer a clean, sun-bright product.

ROBERT SIEBERT
Orange

The city of Los Angeles and the DWP are proving that their colonial ambitions will never die. Their motivations for placing solar panels in the Owens Valley have everything to do with controlling energy markets and stealing land from surrounding communities.

They've already done it in the Owens Valley once before. Shame on them for trying to stamp the urban footprint in the Eastern Sierra yet again.

They should first demonstrate their sincerity toward green energy by using the millions of square feet of unused rooftop space for solar panels. This would create a local energy infrastructure with local jobs. Yet the DWP focuses its efforts on land grabs in the deserts.

DAVID MADDEN
Riverside

::

The DWP's ambitious plan for developing one of the world's largest solar farms in the Eastern Sierra highlights the need to balance responsible renewable-energy projects with sensitivity to the surrounding environment.

The unique beauty of the Owens Valley draws millions of visitors who enjoy its incredible views and the opportunities it offers for outdoor recreation. If the project proceeds, it must also provide benefits to Eastern Sierra communities and the region's environment.

I hope that the DWP will engage the ratepayers of Los Angeles, Eastern Sierra communities and other stakeholders in a fully transparent and inclusive process as we work toward a secure and clean energy future for our state.

SALLY MILLER
Lee Vining, Calif.

The writer is a senior field representative for the Wilderness Society.

9-28-06 latimes.com/california

L.A. Told Again: Fix Owens River

OVER

Appeals court upholds order banning use of key aqueduct if officials fail to act. Project could be one of the largest attempted in the U.S.

By Louis Sahagun and Stuart Silverstein
Times Staff Writers

A state Court of Appeal panel late Wednesday gave Los Angeles a strong push to move ahead on restoring a 62-mile stretch of the Lower Owens River by upholding a court order that would ban the city from using a key aqueduct if it continues delaying the project.

The ruling in the years-long legal dispute was hailed as a victory for Owens Valley residents, environmental groups and state officials fed up with the city Department of Water and Power's failure to comply with a legal agreement to restore the once-vibrant Inyo County river. The restoration effort would be one of the largest ever attempted in the country.

"This may be the final salvo in the longest-running fight over an environmental impact report in California history," said Gordon Burns, deputy solicitor general for Atty. Gen. Bill Lockyer. "Now, everybody is holding tight and hoping the city will do what it is supposed to do."

Laurens H. Silver, a lawyer for the Sierra Club, one of the plaintiffs in the case, said the Lower Owens River Project "should have been implemented four or five years ago, and is mitigation for the long-term damage that the city has done by way of its ground water pumping" from the Owens Valley.

The ruling has implications for the river as well as Owens Lake, which "was almost totally dewatered by the city's exports" of water from the area, he said.

The Court of Appeal upheld, on narrow grounds, last year's ruling imposing sanctions against Los Angeles. It said the city and the DWP forfeited their ability to appeal "by failing to object or request modifications" earlier, in trial court.

Specifically, the city did not object when the trial court announced its intended ruling from the bench, did not request a continuance to file a supplemental brief and did not file a motion for reconsideration, the appellate court said.

It also rejected the city's assertion that raising an objection at the trial court level would have been futile. "In fact, the trial court appeared to invite input on the appropriateness of the sanctions," the ruling declared.

At the same time, the ruling rejected a bid by the Sierra Club and the Owens Valley Committee to find that the city's appeal was frivolous and to award them legal fees, costs and damages. "This case does not meet the highly egregious standard that would justify the imposition of sanctions," ruled a 4th Appellate

[*See Aqueduct, Page B10*]

LUIS SINCO *Los Angeles Times*

THE SOURCE: *Snowcapped eastern Sierra is reflected in pond fed by the Owens River. A year ago, in an attempt to compel the DWP to act, an Inyo County judge imposed fines of $5,000 a day until water is flowing in the river at a rate of 40 cubic feet a second.*

L.A. Ordered to Restore Owens River

[*Aqueduct, from Page B1*]
District panel based in Riverside.

Jonathan Diamond, spokesman for City Atty. Rocky Delgadillo, said it was unclear whether Los Angeles will appeal Wednesday's ruling.

"We have to look at it and consider the options," he said.

Diamond, who said he had not seen the appellate decision, said he believes the city has been "in compliance with the order to this point and anticipate that we'll be in compliance by the 2007 deadline" to begin providing water to replenish the Lower Owens River.

As it stands, the DWP has missed at least 13 deadlines connected to the project due to circumstances that agency officials have insisted were beyond their control. Officials with the agency and representatives of Mayor Antonio Villaraigosa's administration were unavailable for comment Wednesday.

A year ago, in an attempt to compel the DWP to act, Inyo County Superior Court Judge Lee E. Cooper imposed fines of $5,000 a day until water is flowing again in the river at a rate of 40 cubic feet a second. The fines began accruing Sept. 5, 2005.

Cooper also ordered the DWP to cut by a third its pumping of water out of the lower Owens Valley. Failure to abide by his ruling, he warned, would result in a permanent ban against using the so-called Second Los Angeles Aqueduct, an $89-million facility that has been exporting millions of gallons of water to Southern California each day for domestic use since 1970.

The Lower Owens River Project was conceived in 1991 to mitigate excessive groundwater pumping by the DWP that had destroyed habitat in the Owens Valley from 1970 to 1990. In a legal agreement, the DWP agreed in 1997 to recharge the aquifer and create and sustain healthy and diverse habitat for fish, waterfowl and shorebirds, as well as stands of cottonwood and willows, by mid-2003.

But in 2001, a lawsuit was brought by the California Department of Fish and Game, California State Lands Commission, Sierra Club and Owens Valley Committee, accusing the DWP of deliberately missing deadlines for implementing the project, which would cost about $39 million to get underway.

The legal dispute underlines acrimony that has boiled in the Owens Valley since the early 1900s, when the city had agents pose as farmers and ranchers to buy land and water rights in the valley, then began building an aqueduct to slake the thirst of the growing metropolis more than 200 miles to the south. The river was reduced to a trickle in 1913 when the Owens River Aqueduct began delivering water to Los Angeles.

The Second Los Angeles Aqueduct, which begins south of the Owens dry lakebed and ends 200 miles to the south in the San Fernando Valley, added 50% more capacity to the water system when it was opened 36 years ago.

The aqueducts dried up Owens Lake, drained the natural springs that fed fish hatcheries and farmlands, and helped turn the region into a dustbowl. For Owens Valley residents, the delay in reviving the river has been characterized as a dereliction of duty by the city.

The two Los Angeles aqueducts deliver about 430 million gallons a day to the city.

In previous long legal battles in the eastern Sierra, the DWP has been forced to give up significant amounts of water to steady water levels in Mono Lake, and to re-water parts of the dry Owens Lake to prevent dust storms.

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Lower Owens River Project

Largest River Riparian Restoration Project in the Western United States

Background and Updates Provided by Inyo County Water Department in cooperation with the Los Angeles Department of Water and Power

OVERVIEW of the LORP

Recent Activity
Updated 4/14/06

History

Location

Elements of the LORP

Stakeholders

LORP EIR

QUICK LINKS

Long Term Water Agreement

MOU

Picture Gallery

The Lower Owens River Project (LORP) is one of the largest and most ambitious river restoration projects undertaken in the history of the Western United States.In California in 1913, LADWP began diverting water from Inyo County's Owens River for export to Los Angeles, effectively drying up most of the 62 miles of the river below the LA Aqueduct intake.

Now after 90 years, water will once again begin to flow. The LORP will reestablish a permanent river flow down the historic 62 mile channel, reviving its riparian habitat and providing a warm water fishery.

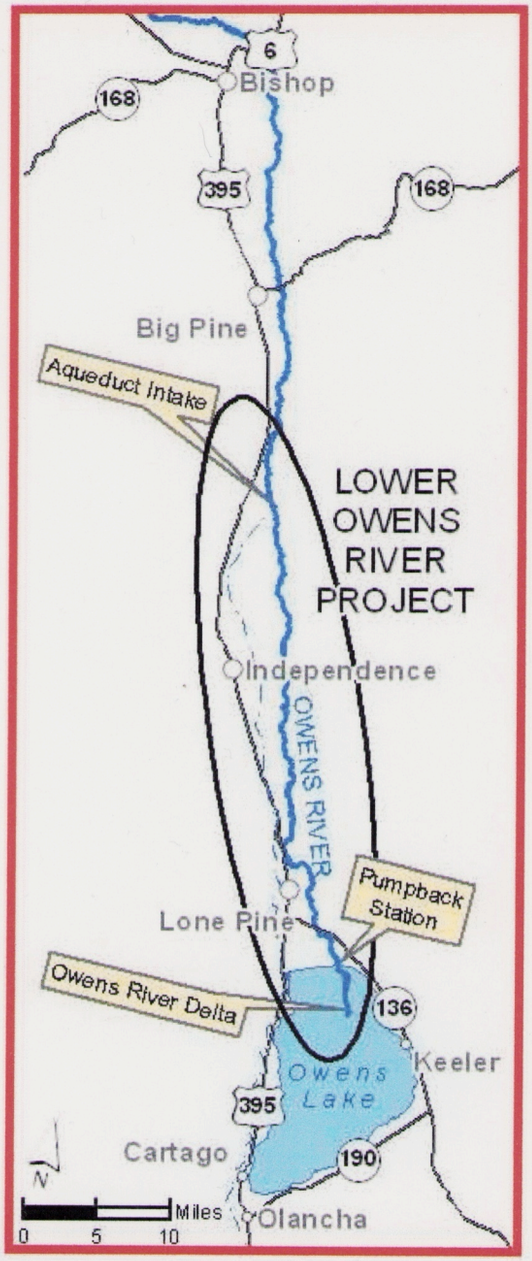
The Lower Owens River Project will result in a permanent water supply for the creation and enhancement of nearly 2000 acres of wetland and riparian habitat beyond the river banks, sustaining a wide variety songbirds, waterfowl, and shorebirds. The LORP will provide recreational opportunities for anglers, botanists, hunters, hikers, bicyclists and bird watchers; and preserve the area's historical ranching and farming in California's Owens Valley.

The LORP is a joint project between the Los Angeles Department of Water and Power and the County of Inyo as part of the Inyo/Los Angeles Long Term Water Agreement and a Memorandum of Understanding (MOU) between Inyo County , LADWP, the California Department of Fish and Game, the State Lands Commission, the Sierra Club, and the Owens Valley Committee

Lower Owens River Project *Largest River Riparian Restoration Project in the Western United States*

LOCATION

LORP Home | *Contact Inyo County* | *Contact Los Angeles Department of Water and Power*



LOOKING SOUTH FROM THE AQUEDUCT INTAKE

Owens Valley

From Wikipedia, the free encyclopedia

Owens Valley is the arid ranching valley of the Owens River in southeastern California in the United States. The valley is approximately 75 mi (120 km) long, trending north-south, and is bounded by the Sierra Nevada on the west and the Inyo and White Mountains on the east. The mountains on either side (including Mount Whitney) reach above 14,000 ft (4,300 m) in elevation, while the floor of the Owens Valley is at 4,000 ft (1,200 m), making the valley one of the deepest in the United States. The bed of Owens Lake, now a dry alkali flat, sits on the southern end of the valley. The valley provides water to the Los Angeles Aqueduct, the source of one-third the drinking water for Los Angeles, and is famous as the scene of one of the fiercest and long-running episodes of the California Water Wars.

Historical events in Owens Valley inspired aspects of the film *Chinatown*.

The Owens Valley stretches from Haiwee Reservoir in the south to the Sherwin Summit in the north (just north of the town of Bishop). Other towns in the Owens Valley include Lone Pine, Independence and Big Pine. The major road in the valley is U.S. Highway 395.

Owens River from Bishop Tuff tableland.

Contents

- 1 Geology
- 2 History
  - 2.1 California Water Wars
- 3 See also
- 4 References
- 5 External links

Geology

Beginning about 3 million years ago, the Sierra Nevada and White Mountains fault systems became active with repeated episodes of slip earthquakes gradually producing the impressive relief of the

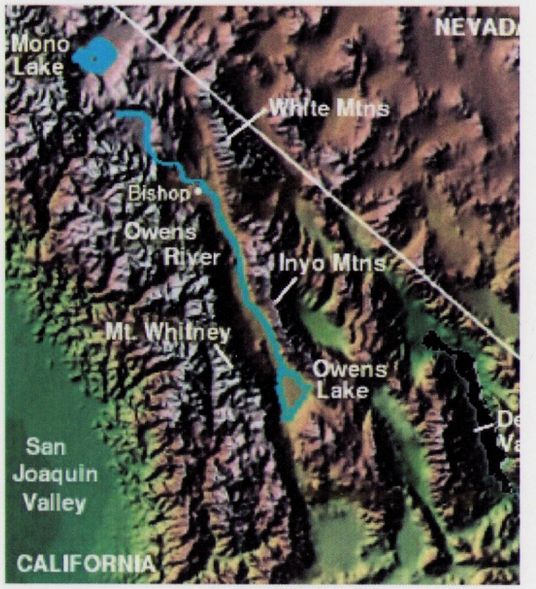
eastern Sierra Nevada and White Mountain escarpments that bound the northern Owens Valley-Mono Basin region.

Owens Valley is a graben: a downdropped block of land between two vertical faults. Owens Valley is the westernmost graben in the Basin and Range Province.

The western flank of much of the valley has large moraines coming off the Sierra Nevada. These unsorted piles of rock, boulders and dust were bulldozed to where they are by glaciers during the last ice age. An excellent example of a moraine is on California Highway 168 as it climbs into Buttermilk Country.

This graben was formed by a long series of earthquakes, such as the 1872 Lone Pine earthquake, that have moved the graben down and helped move the Sierra Nevada up. The graben is in fact much larger than the depth of the valley infers; gravity studies suggest that 10,000 feet (3 km) of sedimentary rock mostly fills the graben and that a very steep escarpment is buried under the western length of the valley. The topmost part of this escarpment is exposed at Alabama Hills.

See also: Inyo and Mono Craters. Small versions of the Devils Postpile, can be found, for example, by Little Lake.



Owens Valley

History

The Sierra Nevada casts the valley in a rain shadow, which makes Owens Valley "the land of little rain".

The valley was inhabited in late prehistoric times by the Timbisha (also called Panamint or Koso) in the extreme south end around Owens Lake and by the Eastern Mono (also called Owens Valley Paiute) in the central and northern portions of the valley. The Timbisha speak a Uto-Aztecan language related to Shoshoni and Comanche. The Eastern Mono speak a dialect of the Mono language which is also Uto-Aztecan, but is more closely related to Northern Paiute. The Timbisha presently live in Death Valley at Furnace Creek although most families also have summer homes in the Lone Pine colony. The Eastern Mono live in several colonies from Lone Pine to Bishop.

During World War II a Japanese American Internment camp operated in the valley at Manzanar near Independence, California.

In 1845 John C Fremont named the Owens valley, river and lake for Richard Owens, one of his guides.

Owens Valley, Alabama Hills, and Owens L
seen from Whitney Portal Road, west of Lone
CA

California Water Wars

In the early 20th century the valley became the scene of a struggle between local residents and the city of Los Angeles over water rights. William Mulholland, superintendent of the Los Angeles Department of Water and Power (LADWP) planned the 223 mile (359 km) Los Angeles Aqueduct, completed in 1913, which diverted water from the Owens River. Much of the water rights were acquired through subterfuge, with purchases splitting water cooperatives and pitting neighbors against each other. The purchases led to anger among local farmers, which erupted in violence in 1924, when parts of the water system were sabotaged by local farmers.

Eventually Los Angeles acquired a large fraction of the water rights to over 300,000 acres (1,200 km²) of land in the valley such that inflows to Owens Lake were almost completely diverted. The lake subsequently dried up completely, leaving the present alkali flat which plagues the southern valley with alkali dust storms.

In 1970, LADWP completed a second aqueduct from Owens Valley. More surface water was diverted and groundwater was pumped to feed the aqueduct. Owens Valley springs and seeps dried and disappeared, and groundwater-dependent vegetation began to die.

Years of litigation followed. In 1997, Inyo County, Los Angeles, the Owens Valley Committee, the Sierra Club, and other concerned parties signed a Memorandum of Understanding that specified terms by which the lower Owens River would be rewatered by June 2003. LADWP missed this deadline and was sued again. Under another settlement, this time including the State of California, Los Angeles promised to rewater the lower Owens River by September 2005. As of February 2005, LADWP announced it was unlikely to meet this extended deadline.

In July 2004, Los Angeles mayor James Hahn proposed barring all future development on its Owens Valley holdings, by proposing a conservation easement for all LADWP land. As of October, 2004, Inyo County officials seem to be resisting the offer of the easement [1] (http://www.inyoregister.com/articles/2004/10/22/news/224new02.prt) , perhaps due to the prior history of mistrust over LADWP actions.

One of the earliest American explorers in the area reported over "ten thousand acres [40 km²] of fine grass", but today, visitors are hard pressed to find verdant meadows. While most local residents place the blame on LADWP's aqueduct and groundwater pumping programs, the situation is not that simple. Throughout the Western United States, sagebrush, greasewood, and other woody shrubs are replacing grasslands through the process of ecological succession, and the Owens Valley is no different. Due to factors such as fire suppression, grazing patterns, and generally changing climate patterns, woody shrubs are certain to overtake grasses and weeds. To restore the valley to grassland, land management practices must be reversed.

Owens Valley, and the Sierra Escarpment

See also

- List of guidebooks about the Sierra Nevada

References

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River is resurrected

7-8-2007

GREEN: *Just north of Lone Pine, willows and other vegetation thrive along the restored Lower Owens River. Too-dense tule thickets may be removed by the DWP.*

The long-dry Owens now teems with birds and fish

By Louis Sahagun
Times Staff Writer

Independence, Calif.

Healing ailing rivers is Mark Hill's specialty. So when the tall and lean ecologist visits one of his works in progress, he's prepared to paddle a long and sinuous route to assess the health of his watery patient.

In this case, his charge is the Lower Owens River, a 62-mile-long stretch left essentially dry in 1913 after its flows of Sierra snowmelt were diverted into the Los Angeles Aqueduct. After decades of political bickering, water was directed back into the riverbed in December, launching the largest river restoration effort ever attempted in the West.

Ecologists knew the Lower Owens would come back to life. But how fast would it rebuild itself? Which wildlife would appear first? Which plants?

Scientists have been surprised by some of the early answers, and to flesh out the details Hill recently took his first survey by kayak of the river. Hill, the lead scientist in the Lower Owens River Project, stepped into a blue inflatable 16-foot kayak, said "Let's go," and was soon scooting through the channel that cuts across the Owens Valley.

Hill's daylong journey, which included visitors in a separate kayak, was marked by striking displays of birds, fish and insects already setting up shop during the restored river's first summer. The water ran cold and, in this part of the channel, about knee deep. But the water was so clear that it seemed as though the kayaks were moving barely above the gravel bottom.

FLOW: *The river's water courses at a carefully controlled rate of about 40 cubic feet per second, about the pace of a leisurely stroll.*

Locals call this vast, arid region, about 200 miles north of Los Angeles, "The Big Quiet." It's easy to see why. The only sounds were the slosh of waves along the hulls, the dip of paddle blades and the occasional melodic konk-la-ree of red-winged blackbirds nesting in bulrushes.

OVER

"Wow! Look at that," Hill said, nodding toward a cloud of baby largemouth bass — evidence of the species' first spawn in the revived river system — wafting through a tangle of water lilies. Nearby, carp and Owens River suckers, some of them more than a foot long, grazed amid submerged pastures of moss that, in turn, fed on nutrients in the channel that for decades "had more cow poop than water in it," Hill said.

Great blue herons and kingfishers plucked fish from myriad shallow inlets created by the new flows. At dusk, bank swallows caught flying insects after emerging from small caves they had chipped out of steep riverbank cliffs.

The water, which comes from the Upper Owens River, began its journey high in the Sierra Nevada. Most water from the Upper Owens continues to pour into the Los Angeles Aqueduct, but some now heads into the Lower Owens and travels 62 miles to Owens Lake, which was left dry after the aqueduct opened in 1913.

The original river channel here was formed about 25,000 to 50,000 years ago, during the Pleistocene Epoch, and the water flowed in torrents as fast as 3,000 cubic feet per second. The water now courses at a carefully controlled rate of about 40 cubic feet per second.

That rate is about the pace of a leisurely stroll, and when the diversion project began Dec. 6, it took about 19 days for the water to arrive at the northern end of Owens Lake. When the water reaches the lake, it is pumped back into the aqueduct to head for Los Angeles. (It appeared that no water was taken from the river to fight fires that started Friday in the Inyo National Forest.)

The Lower Owens River can't be called pristine. For nearly a century, the riverbed was trampled by cattle, overgrown with invasive plants and trees and mostly dry, save for a few spring-fed ponds. Paradoxically, these conditions provide benefits that will help in the channel's recovery.

The manure-fed moss provides food for unexpectedly vigorous populations of fish, which have begun venturing out beyond the spring-fed ponds. Gravel in the riverbed provides an ideal habitat for diatoms, beautiful microscopic algae and early links in the food chain.

Tree stumps, eyesores when the channel was dry, now offer shelter for young fish or redirect currents, which sometimes gouge the riverbed. Mathematical simulations predicted the water would run about 2 to 4 feet deep, depending on the width of the channel. But the redirected currents are digging out sections 6 to 10 feet deep in places.

"We didn't expect to see this much velocity in the river," Hill said. "We didn't expect to see this much clarity in the river. We didn't expect to see this many deep holes in the river."

Groundwater has recharged and risen faster than anticipated and oxygen levels remain high, creating hundreds of channels and ponds that will soon become ideal habitat for waterfowl and fish. "All good signs the river is coming on strong," Hill said.

Later this year, the Los Angeles Department of Water and Power plans to release pulses of water at rates of 200 cubic feet per second to mimic annual flood cycles and distribute willow seeds. If all goes according to plan, within a decade, willows will cloak the banks, creating shady canopies over pools that Hill predicted would be "prime bass and catfish real estate."

But the arrival of some species means the departure of others. When willows and cottonwoods finally shade parts of the river, sun-hungry moss will disappear from those areas. Some desert shrubs, such as salt brush, rabbit brush and bitter weed, are already dying because they don't like the high water table.

"We're witnessing the start of a recovery that will occur in stages in what has become an enormous outdoor laboratory for river restoration," Hill said.

The project was long in coming and, like most issues involving water between Los Angeles and the Owens Valley, a source of irritation. In a place where residents like to say "Los Angeles stole our water fair and square," tensions between the DWP and environmentalists and local communities continue to flare.

Earlier this year, a judge said the DWP had not done all that was required in the Lower Owens River Project. As a result, Inyo County Superior Court Judge Lee E. Cooper denied a request by the city to lift fines of $5,000 a day that the judge imposed Sept. 5, 2005, for failing to restore the river in a timely manner.

These days, the river's flow and nature's rapid response are instilling a new sense of pride at the DWP, long viewed as a hostile landlord and responsible for environmental devastation. For locals, the project is a remarkable gift of conservation and potential boon for the tourist stops along U.S. 395 just east of the snaggletoothed Sierra range.

Francis Pedneau, a lifelong rockhound and bass fisherman these parts, described the improved relations with Los Angeles this way: "I have a big bias against the DWP, but they've been so cooperative with us fishermen lately that it makes us wonder what they've got up their sleeves."

During a recent flight over the Lower Owens, pilot and local motel owner Martin Powell banked his single-engine Cessna over glistening marshlands north of the community of Lone Pine and said, "It's as green as I've ever seen it. There's a lot of sand down there seeing water for the first time outside of a rainstorm. Very nice. Very nice."

Back in the river channel, Hill maneuvered his kayak among clumps of tumbleweeds, tree stumps, beaver dams and tule thickets, which are a continuing problem because they obstruct ideal flow patterns.

The DWP is considering using a special machine to remove tules, Hill said.

But the project's biggest challenge, he said, will be keeping the valley's cattle herds away from pioneer colonies of willows and cottonwoods until they can grow to a height of at least 4 to 6 feet.

"We're putting up more than 50 miles of barbed-wire fences along the river channel to manage the cows," Hill said. "To cows, willow shoots are like candy."

Most of the restoration work, then, falls to Mother Nature. There are no plans to stock the stream with fish or new plants. In about five to seven years the larger species in the food chain, such as elk, deer and mountain lion, will establish themselves along the river system.

For now, that system continues to awaken. The kayaks slipped past willows spewing seeds into the flow. Brambles buzzed with dragonflies that were dropping eggs into the water, which will produce larvae to feed fish. A green tree frog climbed aboard a patch of bunch grass.

After exploring six miles of the river, Hill dragged his kayak onto a sun-bleached, sandy shoal where he was greeted by William Platts, his associate and mentor at Ecosystem Sciences Foundation, a Boise, Idaho, firm specializing in the development of river restoration and watershed management programs.

Standing on a bluff and watching the river flow, the affable 79-year-old Platts smiled. "It's working good, Mark," he said. "This will be a better river than it was before the DWP came into the Owens Valley.

"It took a long time to get this far," he added. "All we have to do now is get out of nature's way."

River returns to life

Six months after water began to flow in the Lower Owens River, a six-mile kayak trip found it teeming with life.

LIFE REBOUNDS IN RESURRECTED RIVER

7-22-07

LOWER OWENS WAS DRY SINCE 1913

By LOUIS SAHAGUN
Los Angeles Times

INDEPENDENCE — Healing ailing rivers is Mark Hill's specialty. So when the tall and lean ecologist visits one of his works in progress, he's prepared to paddle a long and sinuous route to assess the health of his watery patient.

In this case, his charge is the Lower Owens River, a 62-mile-long stretch left essentially dry in 1913 after its flows of Sierra snowmelt were diverted into the Los Angeles Aqueduct. After decades of political bickering, water was directed back into the riverbed in December, launching the largest river restoration effort ever attempted in the West.

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DON KELSEN/Los Angeles Times

Ecologist Mark Hill explores changes in the Lower Owens River since water from the Los Angeles Aqueduct started being diverted into it in December.

Locals call this vast, arid region, about 200 miles north of Los Angeles, "The Big Quiet." It's easy to see why. The only sounds were the slosh of waves along the hulls, the dip of paddle blades and the occasional melodic konk-la-ree of red-winged blackbirds nesting in bulrushes.

"Wow! Look at that," Hill said, nodding toward a cloud of baby largemouth bass — evidence of the species' first spawn in the revived river system — wafting through a tangle of water lilies. Nearby, carp and Owens River suckers, some of them more than a foot long, grazed amid submerged pastures of moss that, in turn, fed on nutrients in the channel that for decades "had more cow poop than water in it," Hill said.

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That rate is about the pace of a leisurely stroll, and when the diversion project began Dec. 6, it took about 19 days for the water to arrive at the northern end of Owens Lake. When the water reaches the lake, it is pumped back into the aqueduct to head for Los Angeles.

Sierra river's ripe for rebirth

10-6-2013

By Louis Sahagun

LONE PINE, Calif. — An Inyo County official and an environmental activist stepped into wobbly kayaks on Saturday to gauge the prospects of developing a "paddling experience" that would float people down the eastern Sierra Nevada's Lower Owens River.

To Larry Freilich, Inyo County Water Department mitigation manager, and George Wolfe, founder of L.A. River Expeditions, the Lower Owens' lazy loops, oxbows and wetlands — habitat for elk, bobcats and waterfowl — and rugged, wide-open scenery are reason enough to make such voyages worthwhile.

But there is another reason: The river is linked to the century-old Los Angeles Aqueduct system, which, powered by gravity alone as it taps the snows of the Sierra Nevada, nurtures the metropolis 200 miles to the south.

Trips down the Lower Owens would provide a personal understanding of how Sierra snowmelt nourishes a haven for wildlife and contributes to the water budget of a distant city of nearly 4 million people.

Wolfe, who pioneered kayaking trips down the L.A. River, liked what he saw. Rounding a bend in the river, about 20 feet wide and 3 to 6 feet deep, he said, "It's enormously promising — and ready to use. This would not just be about boating — it would also be about water, where it comes from and how to use it sensibly."

Freilich believes excursions could be modeled after concessions that take paying customers each summer along an arrow-straight stretch of the L.A. River's murky blend of imported water and treated urban runoff flanked by the 101 and 405 freeways and strewn with trash.

"It could be an incredible recreation resource," Freilich said. "Of course, we'll need a partnership with the Los Angeles Department of Water and Power, which owns the water and the land that surrounds it."

DWP officials were not available for comment.

The Lower Owens is a product of the largest river habitat restoration effort ever attempted in the western United States.

After the Owens River's water was diverted into the aqueduct in 1913 there was no more for the 62-mile-long Lower Owens, much of which became a dry gulch. It also denied water to the river's massive catch basin, Owens Lake, which evaporated into vast salt flats prone to causing choking dust storms.

After groundwater pumping by the DWP between 1970 and 1990 destroyed habitat in the Owens Valley, the DWP agreed in 1991 to restore the Lower Owens to compensate for the damage.

It took 15 years of court battles, however, before a portion of aqueduct water was redirected into the channel and the Lower Owens rippled anew.

The results were in plain sight as paddles dug into the water Saturday. Wrens and rails chattered in brambles on the river's edge. Bass and carp lurked in the shallows.

The restoration effort, however, also left the Lower Owens overrun with cattails, cane and bulrushes. In preparation for Saturday's tour — and more to follow — Freilich and a small army of volunteers armed with scythes created a "paddle trail" by removing the vegetation collectively known as tules from two miles of river channel.

Along for the ride was Wolfe's wife, Thea Mercouffer, a filmmaker whose award-winning documentary, "Rock the Boat," chronicles the fight to reclaim and renew the L.A. River as a natural resource.

"Given their mutual heartbreaking histories of abuse and renewal," she said, "the Los Angeles River and Lower Owens River should be formally designated as sister rivers."

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Louis Sahagun Los Angeles Times

ZAHA WOLFE and his dog maneuver through tules on a restored stretch of the Lower Owens River. Outdoor enthusiasts tout its recreational potential.

Classification does not provide any legally binding protections

By Jon Klusmire
Register Correspondent

6-2-2018

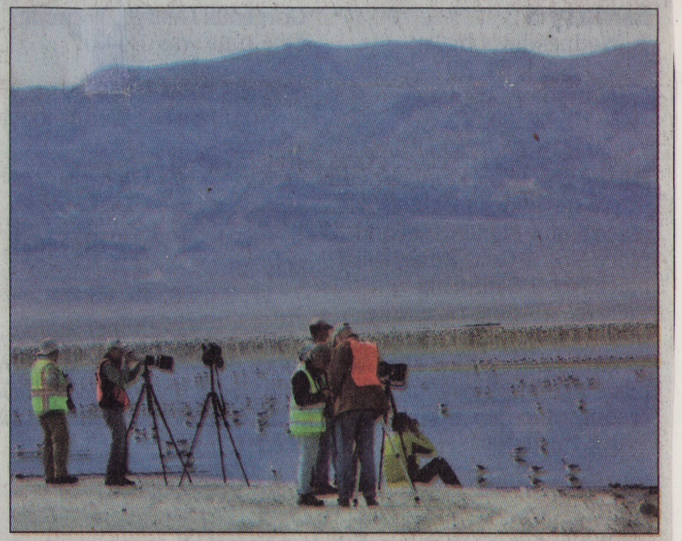
Just like the migratory birds, the accolades just keep coming to the Owens Lake.

Earlier this spring, the sprawling lake was named a prestigious Western Hemisphere Shorebird Reserve Network site of international importance. The designation was a confirmation of the stunning transformation of the once dry and dusty, 100-square-mile lake south of Lone Pine into a man-made haven for all manner of birds.

There are only 104 Western Hemisphere Shorebird Reserve Network sites. They stretch from the southern tip of South America to Alaska. The sites earn the designation based on the number of shorebirds they attract and the sites' value with regard to providing critical habitat to the many species of migratory shorebirds. Some of those birds stop off at the Owens Lake to refuel while making mind-numbing, marathon migrations from South America to the Arctic. Upwards of 50,000 birds can convene on the lake at the peak of the migration seasons, according to local birders.

The Shorebird Reserve Network designation was announced during the 4th annual Owens Lake Bird Festival, earlier this spring. The event is sponsored by the Friends of the Inyo and attracted more than 140 birders from around the country to the Owens Lake and Lone Pine. The group reported festival goers recorded well over 100 different species of birds on the lake, ranging from falcons to ducks to swallows to avocets to grebes.

The new designation does not provide any legally binding protections. The group does coordinate conservation efforts and publicity as a way to protect declining shorebird habitats before they are damaged or destroyed. The Audubon Society has also recognized the importance of Owens Lake to migrating birds and other wildlife.



Birders using binoculars and long camera lenses while observing birds on the Owens Lake.

Photo courtesy Mike Prather

Those designations and recognition serve as a validation and commendation of the work done on the lake by several local conservationists, who have been documenting the lake's bird populations for decades and advocating for the birds and the habitats that sustain them. Tom and

See LAKE ▶ Page 3

LAKE

Continued from front page

Jo Heindel, of Big Pine, have been watching the lake and the birds since coming to the area in 1972. They are compiling a survey of every species of bird to visit Inyo County in the last 150 years. Mike Prather, of Lone Pine, got his first look at the birds on Owens Lake in 1985. Since then he has researched the bird activity on the lake and worked with all the groups involved in the lake's revival, from the State of California to duck hunters to the Great Basin Air Pollution District to the Los Angeles Department of Water and Power.

In recent years, the West's saline lakes, such as Owens Lake and the Great Salt Lake, have become important destinations for migratory birds as other lakes and wetlands have disappeared. The next threatened lake, according to conservationists and the Audubon Society, is the rapidly shrinking Salton Sea. That huge inland lake has been in decline for years and has been targeted for rehabilitation. The turnaround at the Owens Lake could provide a template for the Salton Sea and other western lakes, the Audubon noted.

Rob Clay, the director of the shorebird reserve network, noted that the years of work to bring bird life back to the lake was an example of how human welfare and conservation can be linked to create positive results for local residents and the environment.

Owens Valley residents are familiar with the story of the lake's new life. The lake dried up in the 1920s because the Owens River, which used to feed the lake, was diverted into the Los Angeles Aqueduct, leaving the lake to slowly dry up. After a number of lawsuits and a resulting court order, in 2001 the Los Angeles Department of Water and Power began a massive, landscape-scale project to reduce the billowing dust that came off the lake. That project included planting vegetation or covering dust-generating areas with gravel or using shallow flooding to stop the dust. The shallow flooding almost immediately started attracting birds.

Eventually, about 55 square miles of the lakebed, or about half of the dry lake, had received some sort of dust "treatment." After spending about $2 billion on the dust control project, the amount of dust coming of the lake had been reduced by 95 percent.

And the birds have returned.

CEO

This section of the Lower Owens River just east of Manzanar looks more like a slow-moving bog than a river. Consistent monitoring of the river over the next decade will record changes and highlight areas that might need man's hand to help improve the river's ecological progress. Photo by Jon Klusmire

'New' river subject of on-ground survey

Data gathered from documentation of what's going on out there given high-tech, visual touch

10-13-2007

By Jon Klusmire
Register Staff

OCT. 11, 2007 – Monitoring the progress of the Lower Owens River has become a high-tech marriage of old-fashioned legwork and new-fangled computer technology.

Crews laced up their boots, took bottles of water, digital cameras, GPS locators and data sheets and then made three laps around the 62 river miles of "new" river. While walking a total 187 miles in 12 days, the crews literally took a "snapshot" of the conditions along the riverbanks, in the river and within eye shot.

The resulting data was then layered over the top of a Google Earth map of the river stretch to allow managers and the public to pinpoint everything from stands of new willows to roads to fire rings.

"It's cool, but it's also a tool," Chris Howard, the computer and data expert at the Inyo County Water Department, said of the linking of ground data with satellite maps. The Inyo County Board of Supervisors was impressed by the gritty gathering of raw data, and maybe even a bit dazzled by the "gee whiz" impact of seeing a satellite camera zero in on the Owens Valley from space.

The result of the first annual "Rapid Assessment Survey" (RAS) "will be a very important component for management of the Lower Owens River Project," said Tom Brooks, director of the county Water Department. The data will provide managers with the kind of information they need to direct staff time, resources and money to the most important and critical tasks when they start to decide on the 2008 LORP work plan, said Brooks.

"I was very impressed with the level of work" on every aspect of the RAS, said Brooks.

The RAS was one monitoring technique outlined in the 2004 LORP Environmental Impact Report, the more recent LORP court order and the adaptive management plan for the new river, he noted.

Brooks praised the staff at the county Water Department for diving into the data-gathering effort and working creatively and cooperatively with their counterparts from the Los Angeles Department of Water and Power and Ecosystem Sciences, the consulting firm hired by LADWP to help with LORP-related issues.

"It was gratifying to see the staffs do it themselves," by getting together to address numerous potential problems and find workable solutions, Brooks said. "It was a very good working effort" among staffers from all three entities. He noted that Debbie House, who took the lead on the RAS effort for LADWP, was instrumental in getting the effort organized and keeping it on track.

Irene Yamashita, vegetation specialist for the county Water Department, described the groundwork. The crews set out to walk the entire length of the LORP, from the Aqueduct Intake where 40 cubic-feet-per-second of water is released into the river channel, to the Owens River Delta at the Dry Lake. In addition, the data-takers toured all the off-river lakes associated with LORP, and the various units of the Blackrock Waterfowl Habitat Area, she noted.

Using the GPS locator, a crew would stop at a specific location and record what it actually saw at that spot, by writing down observations on a

See SURVEY, page S-12

Continued from front page

data sheet and also taking digital photos, she said. The crews set out to simply record the conditions they found, Yamashita said, and made no value judgements on what they found, whether it was a broken fence or a tamarisk tree.

Based on the EIR and the adaptive management principles that will guide LORP management, the crews looked for specific features that fell into the following general categories:

- Recreation, which would include access roads, fire rings, trails, etc.
- Beaver activity, be it ponds and dams or chewed-up trees.
- Woody recruitment, which is science-speak for "new trees." The crews identified locations where young cottonwoods were taking root, and also spotted stands of willows and other "woody" vegetation.
- Exotic/noxious weeds, from perennial pepperwood to tamarisk. These were noted in order to document the scope and level of such unwanted vegetation to help with future eradication efforts.
- Tamarisk slash piles. Though they were not part of the required monitoring, the crews took note of piles of dead tamarisk that had been placed along the riverbank.
- Grazing, including documenting where cattle were being fed and other impacts.
- Fencing, including nice, new fences and old, falling down fences.
- "Other," including such items as trash piles and just random trash along the riverbank.

With two to five teams tromping up and down the river every day and reporting back every evening, "the data adds up fast," said Howard.

He took all that information and put it into a database and then created "a visual tool" using Google Earth.

The database includes all the sheets containing the observations of the crews about each category they observed.

The "cool" tool was created when Howard put all that data on a Google Earth map.

Bringing the map up on his computer, Howard could click on a category, say beaver activity, and in a flash, the Google map of the Lower Owens River had "balloons" on it where the crews observed the beaver work.

First District Supervisor Linda Arcularius said the survey work and resulting data "sets the adaptive management plan in real life, not in theoretical, 'what ifs.'" Responding to what is actually happening along the river and in the nearby flood plain by using data gathered "on the ground" would be far more productive and preferable than relying on theories or computer models predicting what should happen on the LORP, she noted.

The "visual tool" goes a bit farther. Howard "pasted" the "woody recruitment" category on the big Google map, and plenty of balloons showed up. He clicked on one and there was the digital photo taken at that specific site that showed some new willows. Click again and a bigger picture and the related, written observations pop up on the screen.

Since all those balloons are identified by GPS coordinates, crews can go back year after year to the same location to check on the growth of the willows, for example, Brooks noted.

More important for policy and management decisions, the overview and data on the map will give the county and LADWP a virtual road map that can be used to guide ongoing work projects.

Brooks said that the RAS work will help managers to decide how to allocate money and resources, since the RAS data shows what's actually happening on the "new" river.

"Sixty-two miles of river can take up a lot of money," Brooks said of the mandate that the county and LADWP jointly manage the "implementation" stage of the LORP, and also split the costs of such work.

First District Supervisor Linda Arcularius said the RAS work and resulting data "sets the adaptive management plan in real life, not in theoretical, 'what ifs.'" Responding to what is actually happening along the river and in the nearby flood plain by using data gathered "on the ground" would be far more productive and preferable than relying on theories or computer models predicting what should happen on the LORP, she noted.

Determining what kind of actual work will occur on the LORP in 2008 is the next step in the process. Brooks said a draft workplan should be completed by the end of October, which will be reviewed by the county and LADWP before a final list of projects and work is created.

Then both the Inyo County Board of Supervisors and the LADWP board will have to approve that plan, he noted, before work can begin in the summer of 2008.

The same cycle will then be repeated, with a RAS effort undertaken later in the summer of 2008 that will drive the tasks and goals of the 2009 LORP workplan.

1-12-2008

INDEPENDENCE JOURNAL

A Long-Dry California River Gets, and Gives, New Life

By RANDAL C. ARCHIBOLD

INDEPENDENCE, Calif. — What Los Angeles took a century ago — a 62-mile stretch of river here in the parched Owens Valley — it is now giving back.

One of the largest river-restoration projects in the country has sent a gentle current of water meandering through what just a year ago was largely a sandy, rocky bed best used as a horse trail and barely distinguishable from the surrounding high desert scrub.

Mud hens dive for food. A blue heron sweeps overhead. Bass, carp and catfish patrol deep below. Some local residents swear they have even seen river otters.

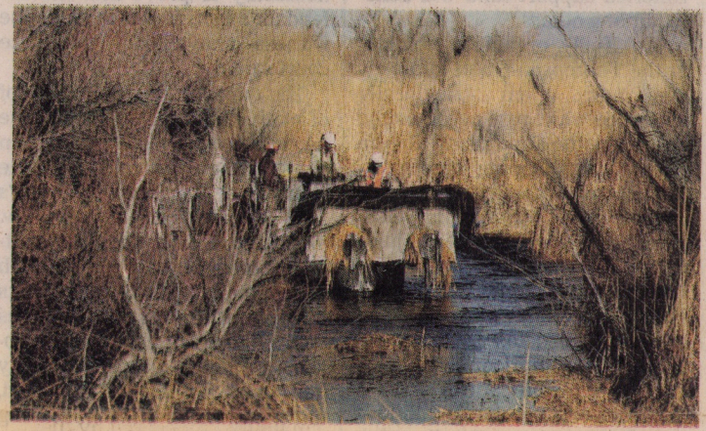
So much reedy tule has sprouted along the banks, like bushy tufts of hair, that officials have called in a huge floating weed whacker, nicknamed the Terminator, to cut through it and help keep the water flowing — a problem inconceivable in years past.

The river, 2 to 3 feet deep and 15 to 20 feet across, will not be mistaken for the mighty Mississippi. And an economic boon promised to accompany the restoration has yet to materialize.

Yet the mere fact that water is present and flowing in the Lower Owens River enthralls residents nearly 100 years after Los Angeles diverted the river into an aqueduct and sent it 200 miles south to slake its growing thirst.

"This is infinitely better than before," said Keith Franson, a kayaker pumping up his boat on the banks this week and preparing to explore a stretch of the renewed river. "You got birds, herons, terns, all sorts of wildlife coming back in because life is coming back in the river."

Francis Pedneau, a lifelong Owens Valley resident who had sparred with Los Angeles city officials over access to fishing sites, said word was spreading among fishing enthusiasts about new spots along the river. Mr. Pedneau said he had actually caught fewer bass this past season, "probably because the schools are more spread out now."



Workers steer a plant shredder dubbed the Terminator through the Owens River to clear vegetation and keep water flowing.

But Mr. Pedneau, 69, has praise for the project, even though he, like many old-timers, is generally suspicious of Los Angeles, given the tension-filled history behind its acquiring water and land here (the inspiration for the 1974 movie "Chinatown").

"The river didn't look anything like it does now," he said. "I never thought I would live long enough to see this."

Los Angeles officials are in a celebratory mood. Mayor Antonio R. Villaraigosa plans to come here next month when engineers temporarily step up the flow as part of regular maintenance.

The flow is carefully controlled, kept at a minimum of 40 cubic feet per second, well above the 5 cubic feet per second in the parts that had still managed to have something of a stream after the river was diverted.

Los Angeles agreed to restore the river as part of a settlement of a lawsuit filed by the Owens Valley Committee, a local group, and the Sierra Club over what it called the excessive pumping of groundwater in the valley in the 1970s and 1980s to increase drinking water supplies beyond what the city was taking from the river.

Under the settlement, Los Angeles, working with Inyo County on the $24 million project, has also taken steps to restore the cottonwoods, willows and wetlands that flourished along the river decades ago and drew an array of wildlife.

Near the river's delta, the released water is recaptured, with most of it used to control dust on Owens Lake, which the diversion had dried up, and the rest sent back into the aqueduct and on to Los Angeles.

The city still gets about 50 percent of its water, including groundwater, from the valley, down about a third in the past several years because of environmental obligations like the river restoration.

Mr. Villaraigosa, who has promised to patch up relations with the Owens Valley, said ending litigation and reviving the river sent an important message.

"By releasing this water, we are demonstrating our commitment to environmental stewardship and a new era in terms of our relationship with Owens River residents," he said. "We can't claim the mantle of the cleanest, greenest big city in America if we continue to degradate the environment in places like the Owens Valley."

Not all disputes are settled.

The Owens Valley Committee and the Sierra Club, while largely pleased so far, said they would like to see Los Angeles more closely monitor the wildlife and habitat making a comeback. Better management of the burgeoning ecosystem, they say, will ensure its success.

"We will have concerns if certain species that should be here are not returning," said Mike Prather, a birder and a committee member.

Brian Tillemans, who manages the project for the Los Angeles Department of Water and Power, said it was working on a plan. But the department generally prefers a "build a habitat and they will come" approach, Mr. Tillemans said, which costs less and allows nature to take the lead.

"The best we can do is optimize the habitat, and nature will take its course," Mr. Tillemans said. Within three years, he said, trees will line the banks, drawing more wildlife and naturally controlling weeds and underbrush.

One species locals hope to see more of is humans.

THE NEW YORK TIMES

The Owens River now draws plants, animals, even humans.

Some businesses have noticed a slight increase in people coming to see or play on the river, and the Lone Pine Chamber of Commerce, one of the larger business development groups here, plans to revise its tourist guide to play up the restoration.

"People are starting to come at odd times of the year, like now, to visit, but what we look forward to is it making a great deal of difference in the long term," said Kathleen New, the chamber president and a lifelong resident.

"Right now, it's a lot of local people going out and getting wet and acting foolish," Ms. New said. "It's marvelous."

Mr. Franson, the kayaker, prepared to launch his inflated boat. Some forays have been long, he said, and others cut short by the tule, but they were all a pleasure.

"I may just get around the corner and I'm stuck," he said. "But, look, this was completely dry not long ago and now it is not."

Justice Flows Into a Parched California Valley

Los Angeles Begins to Return Water, Which It Diverted Nearly a Century Ago

12-20-2006

By JOHN POMFRET
Washington Post Staff Writer

BY JOHN POMFRET — THE WASHINGTON POST

Environmental Mike Prather stands in the Owens River, which contains water for the first time since 1913, when Los Angeles diverted the water into its aqueduct to serve its growing population.

INDEPENDENCE, Calif. — Mike Prather whooped as he ambled through the tumbleweed and salt grass for a look. There it was, bubbling and oozing like lava, as it inched down the valley floor.

The object of his search was nothing more or less than water. Water, which has not flowed in the Owens River for 93 years, is now, almost miraculously, there again.

"This is what I expected," Prather, a 60-year-old environmentalist, said as he and his 26-year-old daughter, a graduate student in wildlife management, watched the water seeping into the sand. "It's not a tsunami; it's more like the tide coming in. I am going to remember this moment for the rest of my life."

Water was returned to the Owens River on Dec. 6, when Los Angeles Mayor Antonio Villaraigosa and Inyo County Supervisor Susan Cash symbolically concluded the most celebrated water war in American history.

Almost a century after Los Angeles diverted the Owens River into the city's aqueduct, Villaraigosa and Cash opened a gate and allowed some of that water to return to the river, starting a reclamation effort (62 riparian miles, 30 air miles) rivaled only by the Kissimmee River Restoration Project in the Florida Everglades.

Traveling less than one mile a day, the flow by a recent Friday had reached a spot on the old riverbed just a few miles north of Independence, where Prather found it.

"By restoring the lower Owens River, the city of Los Angeles will do more than right an historic wrong," Villaraigosa said at a ceremony marking the beginning of the project. "In a deeper sense, we will affirm a literal truth: that when it comes to protecting our environment, it is time for all of us to change course."

The story of the Owens River Valley and Los Angeles is one of the great narratives of the West, chronicled in the 1974 Hollywood classic "Chinatown." Starting in 1904, agents for the city of Los Angeles masquerading as businessmen and ranchers snapped up hundreds of thousands of acres in the valley, 230 miles north of the city.

Los Angeles built an aqueduct and in 1913 diverted the Owens River, which is fed by the snowpack on the Sierra Nevada Mountains to the west, to slake its growing thirst. Another boom in the 1960s prompted the city to pump out the valley's ground water; a second aqueduct was completed in 1970. In total, the aqueducts deliver more than 430 million gallons a day to the city — 70 percent of its water needs.

"Los Angeles employed chicanery, subterfuge, spies, bribery, a campaign of divide-and-conquer and a strategy of lies to get the water out," wrote the late Marc Reisner in his 1986 book, "Cadillac Desert." "In the end, it milked the valley bone-dry."

Springs that annually transformed the valley into a rich marshland for migrating birds, bobcats, deer, elk and mountain lions dried up. Salt grass, cottonwoods and willows died off; tumbleweed and salt cedar moved in.

But the fact that the Los Angeles Department of Water and Power (DWP) owned all the land meant that the valley was saved from the city's sprawl. No strip malls or gated communities mar the landscape. To this day, Inyo County's 18,000 residents live on 1.7 percent of the land.

Starting in the 1970s, environmentalists and residents of towns along the valley began suing the DWP to force it to return water to the valley.

In 1997, the DWP reached an agreement with plaintiffs in the case, including environmental groups such as the Sierra Club and the Owens Valley Committee, to re-create a healthy and diverse habitat for fish, waterfowl and shorebirds by mid-2003.

The city also agreed to place more than 300,000 acres of land it leases to ranchers under a strict management program. And it agreed to mimic the seasonal flooding of the grasslands, which would again turn chunks of the valley floor into fecund marshland, with scheduled releases of water from the aqueducts.

But the DWP dithered. Finally, on July 26, 2005, Inyo County Superior Court Judge Lee E. Cooper vowed that "no excuses will be expected" and ordered the second aqueduct shut down unless Los Angeles began returning water to the valley.

Under current plans, the Owens River will run only two feet deep. But that is enough water to allow some habitats to regenerate, and the seasonal water surges will push seeds even farther out along the riverbanks.

Although the judge's decision forced Los Angeles to act, other developments also made it possible. The city's water conservation efforts have been some of the most successful in the nation; over the past 20 years, while Los Angeles has added 750,000 homes, its water consumption has remained the same. Its water commission used to be dominated by urban boosters, but with time, environmentalists invaded its ranks.

Finally, the DWP itself has changed. "It used to be all engineers," said Prather, "but now they have biologists and wildlife managers."

The Owens River was not the only court defeat handed to the DWP. In the 1990s, a court forced Los Angeles to begin returning water to Mono Lake, a once-pristine ecosystem north of Owens Valley. Over the years, the lake's water table dropped 41 feet because of the city's unquenchable thirst. But in recent years, the water level has risen 10 feet.

On a separate track, lawsuits also went after the DWP because diverting the Owens River had dried up Owens Lake, causing one of the most serious dust pollution problems in the nation – routinely 30 times higher than federal limits. The U.S. Geological Survey called the lake "possibly the greatest or most intense human-disturbed dust source on Earth."

In a court deal in 1999, Los Angeles agreed to mitigate the dust by flooding, spreading gravel or seeding the lake bed. The DWP installed "bubblers," industrial-size sprinklers, to dampen it. So far, it has spent $400 million mitigating the dust, and particulate matter has dropped by 60 percent. In all, more than 30 square miles of the lake will be irrigated. And once water reaches the lake by way of the reopened riverbed, it will be used to further limit the lake bed's dust.

The wetting of Owens Lake has had another fortuitous outcome. It has prompted tens of thousands of birds to return to the region to feast on freshwater shrimp and brine flies. The Owens Valley Committee has documented 39 types of birds, including 26 species of waterfowl, 16 species of birds of prey, 33 species of shorebirds, five species of owls and a coyote living on ducks on an island in the middle of the lake, Prather said.

"Nature is pretty forgiving if you give it a chance," he said as he watched a black-and-white American avocet pick through the mud. "In five years, this valley will be completely transformed."

THE LOWER OWENS RIVER PROJECT

In December 2006 more than 500 people gathered at the Los Angeles Aqueduct Intake to witness the first release of permanent water flows by Los Angeles Mayor Antonio Villaraigosa, Inyo County Supervisor Susan Cash and others, into 62 miles of the Lower Owens River which had been dry for almost 100 years.

With water now flowing year-round, the LORP has created thousands of acres of habitat for fish and wildlife. In turn, the river's rebirth has also created new opportunities for kayaking, fishing, bird watching and other recreation as well as helping the Owens Valley economy. Already biologists, recreational enthusiasts and others are reporting a remarkable recovery of the environment, with vegetation becoming established in the rewatered channel, and fish and other wildlife repopulating the entire river.

Rewatering the Lower Owens River by the City of Los Angeles has proved to be one of the most significant environmental restoration projects in the western United States. By releasing permanent water flows in the Lower Owens River, the City of Los Angeles has demonstrated its commitment to excellent environmental stewardship of its Owens Valley land holdings.

The LORP is designed to provide mitigation for impacts related to ground water pumping by LADWP in the Owens Valley between 1970 and 1990. The project involves returning a steady flow of water from the Los Angeles Aqueduct to the Owens River below Big Pine and down to the Delta of Owens Lake, located just south of Lone Pine, California. Additional water will spread into Owens Valley basins and the Owens Lake Delta to create hundreds of acres of wetland habitat for waterfowl, shorebirds, and other water associated species. In addition existing off-river lakes and ponds will be permanently maintained.

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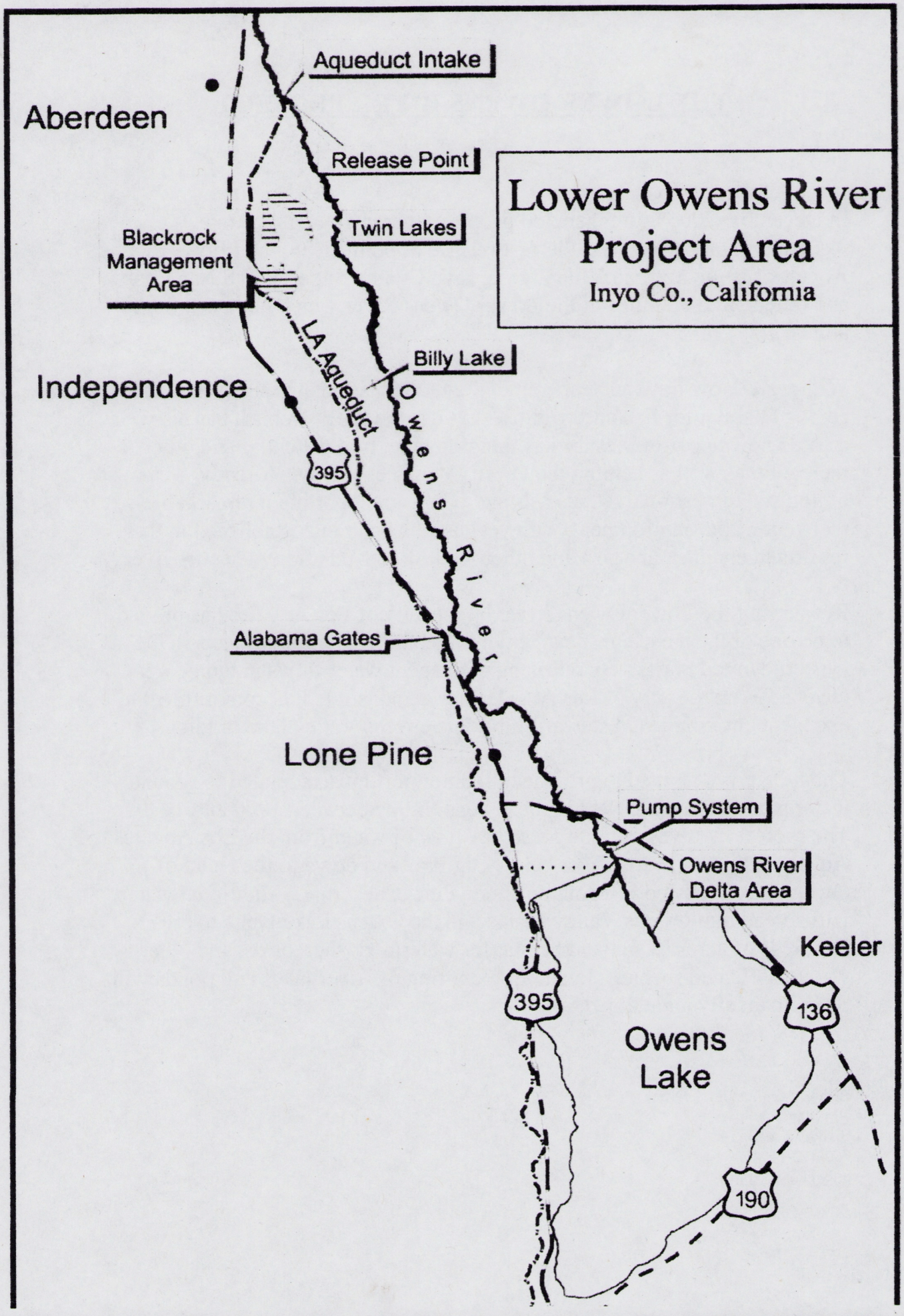
August 2009


Aqueduct Intake
Aberdeen
Release Point
Lower Owens River
Project Area
Inyo Co., California
Twin Lakes
Blackrock
Management
Area
LA Aqueduct
Billy Lake
Independence
Owens River
395
Alabama Gates
Lone Pine
Pump System
Owens River
Delta Area
Keeler
395
136
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190

DWP consultants offer ideas for river 0_2 worries

Ecosystem Sciences representatives present findings of 2011 Lower Owens River Project Report

By Mike Gervais 12-22-2011
Register Staff

Public sentiment so far indicates satisfaction with – or at least the absence of objections to – the Los Angeles Department of Water and Power's most recent Lower Owens River Project Report.

Representatives from Ecosystem Sciences, which compiled the 2011 report, met with residents Tuesday to discuss the data that was collected and receive questions and comments.

Consultants Mark Hill and Bill Platts said the goal for the LORP for the next year is to continue with adaptive management by monitoring the environment, vegetation and river flows to ensure a healthy habitat develops along the re-watered stretch of the Owens, "and if it goes the wrong way, we will put it back on track," Hill said.

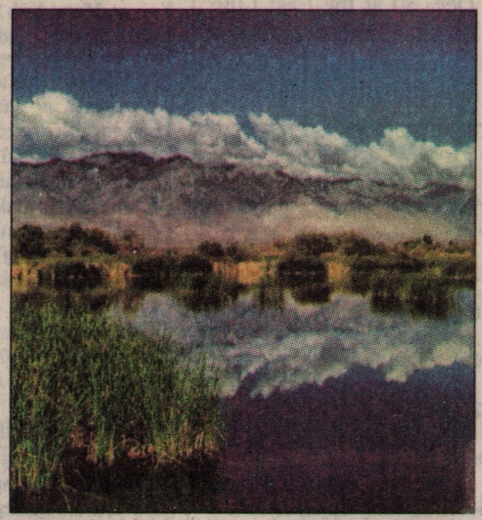
Currently, Hill said Ecosystem Sciences is planning to look at minor changes to the river flow in March that could help manage tule growth.

"We don't want the tules gone," he said. "They're an important part of the ecosystem, but we don't want them taking over the river."

Platts said a change in the flow patters of the ~~LORP~~ could also improve oxygen levels, which currently fluctuate with habitat flows, creating concern about the health of fish in the river.

"Habitat flows year-round are putting a lot of pressure on the fishery," Platts said. "It causes stress for the wildlife, and some died off in 2010."

In hopes of finding a remedy to the oxygen level problem, Platts said he is recommending that seasonal habitat flows on the river begin no later than June 15, which will prevent the warm high desert temperatures from eliminating oxygen in the river.



The Lower Owens River is beginning to show more signs of life with woody growth beginning to take root. River managers are planning to help the ecosystem along by re-tooling seasonal flows and reducing the number of beavers who feed on the young saplings that are sprouting up. Photo by L. Freilich/Inyo County

Earl Wilson, a retired employee of the Great Basin Unified Air Pollution Control District, suggested the LADWP consider mechanically injecting oxygen into the river to help wildlife.

Platts said that would require "a lot of effort" and the oxygen that would be generated would be "eaten up too quickly."

Platts also suggested that the LADWP experiment with different flows in the winter season in order to flush dead and decaying matter out of the river that would otherwise use up oxygen in the water.

"The river has to get that stuff out of its system," Platts said.

Those flushes, he said, would also raise the water quality in the river.

Platts also said that he is recommending that the LADWP reinstate its beaver trapping program to ensure the non-native population does not begin eating away at the woody vegetation that is beginning to take root along the rehabilitated river.

Mark Bagley, speaking for the Sierra Club and Owens Valley Committee, wanted to know how many beavers had been counted on the Lower Owens River and what those numbers should be reduced to.

Platts said that it is nearly impossible to count the number of beavers living along a river that does not completely freeze over, so it is currently unclear how many there are.

He said monitoring of woody sites have turned up indicators that beavers are beginning to eat the new growth.

He said there is not a specific number of beavers that should be trapped and removed from the Lower Owens, and he is recommending only that the program be reinstated to bring the number of beavers down.

To pick up a hard copy of the 2011 LORP Report, go to the LADWP offices at 300 Mandich St. in Bishop. For a digital copy, visit http://www.ladwp.com/ladwp/cms/ladwp014936.js.

The Inyo County-Los Angeles Technical Group will meet to discuss the document Jan. 18.

BY DEB MURPHY

— A Rebirth in the Early Stages of Labor —

Lower Owens River

Mike Prather recently spotted an osprey perched on a sun-bleached log, eating its Owens River catch. In his 40 years of bird watching, Prather has probably noted many similar snapshots. The significance of this one was that the river from which the bird had snagged its fish wasn't there four years ago.

Time has eroded most memories of the Owens River below Aberdeen. In the 1920s, the slow, wandering channel was diverted to the aqueduct south of Big Pine, its waters sent to Los Angeles. But in late 2006, the Owens began the process of a 60-mile incremental resurrection in what has been described as the largest river restoration project in history.

The river is now on its way to becoming many things to many people. For Prather, it holds the potential of attracting species of water fowl last recorded in a survey taken in 1890.

For Brian Tillemans, Los Angeles Department of Water and Power's water resource specialist, the rebirth of the Owens could be the crown jewel in his career of restoring river habitat.

For Keith Franson who rents and sells kayaks at Aibonita in Lone Pine, the flow could be a side trip for valley visitors, what he calls a "soft adventure" as opposed to rafting Class V rapids on the west side of the Sierra. For many, the Lower Owens River Project (LORP) represents a once in a lifetime chance to watch nature bring a river back to life.

Franson grew up on a boat, sailing around the world with his parents, attending school at the journeys' ports of call. The Owens may pale in comparison to the seven seas, but his family has history in the valley. Before the river was diverted, Franson said, the steamships that carried ore from the mining operations in the Inyo Mountains across the Owens Lake were sheltered in the river during the winters. Before the water returned to the river channel, the upper reaches, from Big Pine to Independence, were bone

Opposite Page: The Owens River looks like a real river

Right: Near the release point, Aberdeen/Black Rock area – the river springs to life.

Photos by Keith Franson

dry; the lower section held some runoff but not enough to support even a kayak. Now Franson, his friends and customers take regular cruises exploring the Owens as it comes back to life.

The water is blue/black, the current mild enough to easily paddle upstream from the put-in south of Lone Pine. In early spring the only sound is the rattle of dry tules (sedge), like crisp wind chimes. "Other states like Oregon," said Franson, "have big rivers. The uniqueness of the Owens is that it runs through a desert and you've got views of the mountains." Owens Valley residents get used to the Sierra and the Inyos as backdrops, but the perspective from the water's surface is almost startling.

The upper section of the restored channel draws fishermen; the lower section, Franson said, offers "quiet, solitude, birds and the mountains." The only impediment to the leisurely glide up the river is the encroaching tule growth, the primary bone of contention among river watchers. Control of the tules rests in the hands of Mother Nature and Tillemans.

"Rivers take time," Tillemans said. "We're still in the early stages." He described DWP's role in the restoration as creating the tools for nature to do its magic. One of those tools is the seven-day seasonal habitat flow when the 40 cfs (cubic feet per second) current is ramped up to 200 cfs. "We've only had one opportunity with a peak rain season for a full 200 cfs flow," he said. "With more of those opportunities, we'll get more trees that create shade to decrease the influence of tules and open up the channel."

The increased flow is timed to match the winter snowmelt, scheduled for June this year. The timing also coincides with the cottonwood and willow seed broadcast. "There's a time of year when the seeds are really flying. You have to keep your mouth closed to keep from swallowing them," Tillemans said. At that point, the flow spreads out across the valley floor, preparing the flood plain for new tree growth, creating the riparian habitat Prather and other birders are waiting for.

The upper section of the restored channel draws fishermen; the lower section offers quiet, solitude, birds and the mountains.

"That's the healthiest, most diverse habitat," Prather said. "That's when you'll start to see butterflies, lizards and more birds." With the trees will come woodpeckers, with an even richer riparian habitat will come Bell's vireos, willow fly catchers and yellow billed cuckoos.

While the tule issue and the tree growth take time, other aspects of the river's resurrection are ahead of schedule. "The fishery is back all the way through the river," Tillemans said. "That happened much quicker than we anticipated." The specific tool DWP provided nature was a series of loops connecting the river to Black Rock Ditch and the upper and lower Twin Lakes. "We don't have local warm water fisheries to stock the river," he said, "so the loops allow the fish to move in and out."

The gestation period for the Owens River lasted nearly 20 years, conceived as a mitigation project for DWP's groundwater pumping in the late 1980s. "I still have the original proposal on old typing paper," Tillemans said. "We targeted warm water fish, bass and blue gill, and thought a 35 cfs would

A year and a half after the Owens release, kayakers head upstream south of Lone Pine.

suffice." The original pump back station was at the Alabama Gates, the shortest distance between the river and the aqueduct. The project was part of the 1991 Environmental Impact Report and kicked off negotiations with the county and environmental groups to work out the details. Initially, the goal was to restore the river way and still retrieve the water. In 2003, dust control on Owens Lake became necessary. Now the water goes out onto the lake with 10- to 15-percent diverted back to the aqueduct.

The flow management was, relatively, the easy part of the equation. The land management has been an ongoing project. "We've been working with ranchers to come up with grazing schemes that facilitate the riparian vegetation," Tillemans said. Over the last three years, DWP and the ranchers with grazing leases have figured out a standard that continues the practice but not to the extent that it impedes the vegetation growth.

"We also worked with fishermen to provide walkthroughs at convenient locations for access," Tillemans said. "The goal was to take the impact of man off the flow plain. You can't drive a 4x4 to the river but you can still have access."

Tillemans, with 10 regional restoration projects under his belt, Franson and Prather all have an understanding of what will happen as the river comes back, the one unknown is the time frame. According to Tillemans, once the valley gets a few decent seasonal habitat flows, the changes will be exponential. "Right now the river is going through adolescence," he explained. "We all have to go through stages to get to the end stage. Nature is the same."

In the meantime, we get to watch the maturation process.

Deb Murphy is a freelance writer and has lived in Big Pine for eight years via Indiana, Tennessee, Los Angeles, Fallbrook and Aspendell.

Photographs by DON KELSEN Los Angeles Times

JOURNEY: Owens Valley environmental activist Mike Prather, front, and Inyo County mitigation projects manager Larry Freilich navigate the tule-infested Lower Owens River to Keeler, Calif., by kayak.

Choking the Lower Owens

L.A.'s restoration effort leads to tules clogging 62 miles of river

7-25-2011

LOUIS SAHAGUN
REPORTING FROM LONE PINE, CALIF.

The largest river restoration ever attempted in the West — intended to support a cornucopia of wildlife and outdoor activities — has left a 62-mile stretch of the Lower Owens so overrun with cattails, cane and bulrushes that it may take decades to bring them under control.

Los Angeles Mayor Antonio Villaraigosa turned a knob in 2006 that opened a diversion dam gate about 235 miles north of the city, putting water back into a river essentially left dry after its flows of Sierra snowmelt were diverted to the Los Angeles Aqueduct in 1913.

Officials from Inyo County and the Los Angeles Department of Water and Power, which manages the Lower Owens River, boasted that within 10 years, the waterway would come back to life as a healthy and diverse ecosystem for fish, frogs and waterfowl, shaded by canopies of cottonwoods and willows.

The rehabilitated river would attract more tourists to financially struggling Owens Valley towns with bass fishing tournaments and a kayaking experience some called "the long glide" because the river's carefully controlled flows would be free of rapids and waterfalls.

PROBLEM: Much of the Lower Owens River has become overrun with tules so tall and dense it may take decades to curb the vegetation.

Today, about 65% of the river is dominated by vegetation collectively known as tules — growing 8 feet high and in swaths 10 feet wide, about 10% more than had been anticipated, project ecologists said.

Fishing and kayaking opportunities exist only in scattered patches of brownish-green water.

The $39-million Lower Owens River Project "gave back our 62 miles of running water all right," said lifelong resident and fishing guide Francis Pedneau, "but you have to charter an airplane to see the water."

Marty Adams, director of water operations for the DWP, acknowledged

[See River, AA5]

Tule vegetation clogs stretch of Lower Owens River

7-25-2011

[River, from AA1]
in a statement that "the growth of tules and cattails in the river channel has been much quicker and more pervasive than anticipated by everyone involved, already choking off major portions of the river. This limits the enjoyment of open water and recreational activities."

However, he said, "we all knew this was a 'learn-as-you-go' effort ... removing the excessive vegetation is a possibility, but it is a very expensive and drawn-out undertaking that alone won't keep the water open forever."

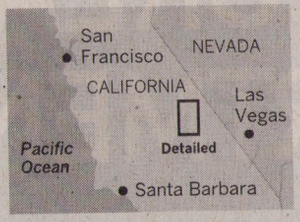
Efforts to control the tules have included use of a boat equipped with blades, known as "the terminator." But a week into the job in 2008, the machine broke down in the river. Locals said the contraption's owner left in a huff. Another option, quickly dismissed by officials in charge of the municipal water supply, called for spraying the tules with herbicide.

Mark Hill, the lead scientist in the Lower Owens River Project, pointed out that "if you're a fish or a duck, the project has been a boffo box office success. We've created 3,000 acres of water and wetlands. There are 4,000 largemouth bass and 2,000 bluegill per mile, and 108 species of birds, 41 of them new to the area."

"The only issue plaguing us right now is too many tules and, as a result, there are huge access problems when it comes to angling and boating," Hill said. "But we have a plan to deal with them."

Clogged up

Excessive growth of bulrushes, cattails and other vegetation is choking the restoration area of the lower Owens River.



Los Angeles Times

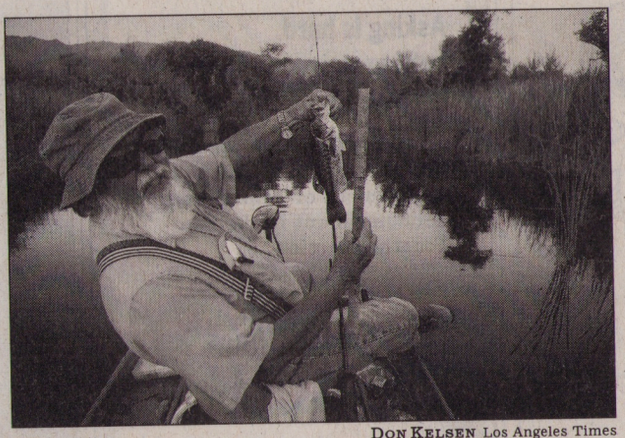
The DWP launched a modeling effort last month to better understand the hydraulic factors driving both desirable and undesirable changes in the river. The findings will help determine how flow releases might be altered to drown or dislodge the tules and better disseminate willow seeds.

Disappointment over the project underscores acrimony that has simmered between the DWP and Owens Valley residents since the early 1900s, when the city agents posed as farmers and ranchers to buy up land and water rights for the aqueduct needed to slake the thirst of the growing metropolis to the south.

Inyo County Supervisor Richard Cervantes winced when he recalled Los Angeles' "sales pitch" of the Lower Owens River Project.

"They said it would be a powerful magnet for tourists that would open up new economic opportunities," Cervantes said. "So I got busy in my garage and built a little boat out of canvas and scraps of Douglas fir and redwood.

"I christened it the L.O.R.P."



DON KELSEN Los Angeles Times

RECREATION: Francis Pedneau holds a bass that he caught and released at Lower Twin Lake.

On a recent weekday, Cervantes led visitors to a shady spot behind his home where the 7-foot craft rested atop sawhorses. "There is the ill-fated L.O.R.P.," he said, nodding toward the brown vessel adorned on both ends with his hand-painted renderings of a blue river cascading down a valley between snow-capped peaks.

"As you can see, she's in a sad state of affairs."

"Unfortunately, I don't think she'll ever float the Lower Owens," he said, shaking his head in disappointment. "I may burn it in protest of what happened to the river."

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A no-flowin' Owens

Re "Choking the Lower Owens," July 25

I beg to differ with the negative assessment of the Owens River restoration project.

I agree with lead scientist Mark Hill, who pointed out the success of the creation of 3,000 acres of water and wetlands. With 108 identified species of birds visiting the area and the multitude of fish being supported by the life generated by the water, I think the project has been extremely successful.

I will survey my science students when they return to class, and I am sure they will concur. Congratulations, Los Angeles.

MARY PETTITT
Highland, Calif.

So what is the problem in creating 3,000 acres of wetland that is being repopulated by birds, fish and other wildlife? There are ample places in the Eastern Sierra for fishing and boating. Keep the area wild and see what develops over the next 100 years.

If Owens Valley residents want a managed river, have them come and pay a visit to the Los Angeles River sometime, or relocate to Anaheim and visit Disneyland.

SNOWDY DODSON
Van Nuys

What is described as the choking of a river system is actually the natural ebb and flow of a watershed ecosystem. It took years of neglect and theft of water to dry up this wonderful place.

To speak of the new life there in such terms as to suggest failure is premature at best. With decades of abuse, can't we wait half a dozen years to allow mother nature to reclaim what was once hers?

While Inyo County Supervisor Richard Cervantes cringes at a reed-choked bank, a rainbow trout is grinning gill to gill about the same clear water that carries a whole new supply of insects to its new home, without human interference.

JAKE BROWER
Orange

CALIFORNIA SCHEMING

LOS ANGELES' INSATIABLE THIRST FOR WATER, WHICH DRAINED THE OWENS VALLEY, HAS RUINED LIVES, SHAPED THE CITY'S POLITICS AND PROVOKED ONGOING CONTROVERSY

BY MARK WHEELER

2002

AT THE MOMENT, CHRIS PLAKOS IS A LITTLE EMBARRASSED. THE PUBLIC RELATIONS MANAGER for the Los Angeles Department of Water and Power is looking for a river he can't find. We're driving down a road 200 miles from Los Angeles, in the Owens Valley, which parallels the Sierra Nevada for about 100 miles. Plakos' employer owns most of this valley, having obtained it decades ago by means that may fairly be called ruthless. Plakos wants to show me how, these days, the municipal utility has become more enlightened toward the region and its residents.

We know the river is east of us, so it should be a simple matter of pointing the rented SUV in that direction. But we are caught in a whiteout caused not by snow but by salt, blowing off a dry lake bed to the south. The cloud contains microscopic particles of nickel, cadmium and arsenic, which at high doses have been shown to cause cancer in animals.

We keep the windows rolled up tight.

Plakos is also embarrassed because the salt-out is traceable to his employer's past policies, and the utility, in a historic turnaround after decades of hostility and acrimony, recently agreed to do something about the problem. So he doesn't need this possibly toxic atmospheric pollution just now. These dust storms, which have long plagued the area whenever the wind is just so, arise from Owens Lake. Once a shallow 110-square-mile body of briny water that still managed to support an abundance of grasses, birds and other wildlife, it was drained decades ago by L.A.'s seemingly bottomless demand for water, transforming the lake into a vast, dusty, cracked-white patch of high desert. It's the most visible casualty in the battle for the water that turned Los Angeles into a major metropolis—a battle about to be rejoined as the city eyes untapped water sources beneath the Mojave Desert.

Above, from left, c. 1905: J. B. Lippincott, of the Reclamation Bureau, Fred Eaton and William Mulholland. Left: The Alabama Gates were the site of a tense four-day occupation by protesters in 1924.

Once a shallow 110-square-mile body of water, dusty Owens Lake is today the m

Caused by the diversion of water to the city of Los Angeles, Owens Lake's dust storms are so large that the EPA considers them among the worst pollutants in the United States. The city is trying to remedy the problem by shallow-flooding the lake bed with water.

In the final analysis, it's not the balmy climate or the $31 billion a year the entertainment industry generates for the city that makes Los Angeles possible. It's water. Without it, the town one newcomer in the 1860s called a "vile little dump" (pop. 13,000) would never have evolved into the second most populous city in the United States.

L.A.'s 19th-century movers and shakers knew that the city's health and prosperity depended upon the availability of freshwater. Los Angeles sits on a semiarid coastal plain, with desert on three sides and the Pacific Ocean on the fourth. Freshwater was limited to the meager flow of the Los Angeles River, now a much-maligned concrete channel, and the paltry 15 inches of rain that the area averages a year.

THE SPIGOT FOR LOS ANGELES IS LOCATED NORTH OF Owens Lake and the small town of Independence, off US 395 and down a mile of bad road. It consists of nothing more than two 20-foot-long concrete blocks. Here, on the eastern slope of the Sierra 4,000 feet above sea level, the Owens River, which used to meander the valley's entire length before emptying into Owens Lake, smacks abruptly into a concrete barricade. Then it is directed to a man-made, arrow-straight dirt channel.

Roman Polanski's 1974 movie *Chinatown*, with Jack Nicholson, shaped the popular conception of the Owens Valley water war.

This is the gateway of the Los Angeles Aqueduct. Nearly a century ago an army of 5,000 men used dynamite, steam shovels, dredging machines and mules to dig out 233 miles of canals and tunnels. They carved the aqueduct out of unforgiving terrain, laying pipe across searing stretches of desert and going over, and often through, solid Sierra rock. Completed in 1913, the aqueduct still carries up to 315 million gallons of water a day to thirsty Angelenos.

You might think this engineering marvel worthy of notice. After all, it is largely responsible for the Southern California of today, as well as the ever-innovating city that has shaped so much of American life and world culture. But there's no roadside attraction here, no plaque, no visitors. Just wind, the gurgle of water and the occasional distant whine of a car speeding along US 395. The only marker is etched into one of the concrete walls: "A.D. MCMXI, LOS ANGELES AQUEDUCT INTAKE."

The low profile likely reflects the fact that as the aqueduct carried away the valley's water, it also carried away the local economy. It left Owens Valley farmers and ranchers high and dry. They responded with lawsuits, protests—and finally, dynamite of their own.

The Owens Valley water war has provoked impassioned debate and been the subject of numerous books. It also provided the backstory to the 1974 film *Chinatown*, which, though fiction, has contributed to the popular perception that Los Angeles raped the Owens Valley. Others contend that the area's economics were spiraling downward anyway and that California's future lay inevitably on its southern coast. The truth, as usual, is more complicated.

visible casualty of the aqueduct that turned Los Angeles into a major metropolis.

P. 104 CHAD SLATTERY; P. 105 ANDREW A. FORBES/LOS ANGELES DEPARTMENT OF WATER & POWER

TO BE SURE, A CRITICAL PART OF THE AQUEDUCT STORY IS the tale of wealthy Los Angeles businessmen speculating in real estate. They included Harrison Gray Otis and his son-in-law, Harry Chandler, owner and publisher, respectively, of the *Los Angeles Times*; E. H. Harriman, president of the Southern Pacific railroad; and Moses Sherman, a real estate developer and member of the city's water board, which established policy for this utility. Otis would use the *Times*' considerable influence to rally support for the aqueduct. Most historians believe that Otis and his colleagues engaged in shadowy dealings and traded on inside information, learning ahead of the public (probably from Sherman) where the aqueduct would terminate and where excess water would be stored—in the water table under the San Fernando Valley, adjacent to Los Angeles. All told, Otis and his colleagues bought 16,000 acres of this valley, which they later sold at a handsome profit.

But the main story of the greening of Los Angeles centers on two other men: William Mulholland and Frederick Eaton. Different as night and day, they were warm friends before becoming bitter enemies. Without their efforts, the aqueduct would not have been built; yet the project would prove to be each man's undoing.

An Irish immigrant, Mulholland was blunt-spoken, almost six feet tall with curly hair and a bushy mustache. He was in his 20s when he settled in L.A. in the late 1870s, after stints as a sailor, dry goods merchant and lumberjack. His first job in the city—at $1.50 per day—was as a deputy zanjero, or irrigation ditch tender, with the privately owned Los Angeles Water Company. But Mulholland was too ambitious to remain a zanjero for long. Teaching himself mathematics, hydraulics and geology, he became a hydraulic engineer within two years, foreman within eight, and then, at 31, superintendent, a position he retained after the city purchased the water company.

For some of that time his boss was Frederick Eaton, a Los Angeles native raised in a well-to-do family. In contrast to the rough-hewn Mulholland, Eaton was sophisticated and polished. He loved his native city, serving as superintendent and chief engineer of the L.A. Water Company and then, from 1898 to 1900, as mayor of L.A.

By 1900, L.A.'s population stood at 102,000, twice what it had been a mere decade earlier. By 1904, the figure had again nearly doubled. As the population rose, the water table began to drop. Some estimates suggested that the Los Angeles River would provide enough water for no more than 250,000 people. Both Eaton and Mulholland realized an entirely new source was needed.

Mulholland began looking throughout Southern California for an alternative supply of freshwater, but it was Fred Eaton who came up with a solution. On a camping trip to the Sierra in the early 1890s, Eaton had gazed down upon Owens Lake and thought about all the freshwater flowing into it and going to waste. Yes, Los Angeles was some 200 miles away, but *it was all downhill*. All one would have to do to move it to the city was dig some canals, lay some pipe and let gravity do the rest. Furthermore, he realized, several streams flowing out of the Sierra could be used to generate hydroelectric power. Imagine, a 200-plus-mile aqueduct running downhill to L.A. and "free" power to boot! Over the next two decades, as his civic interest joined his personal financial interests, Eaton grew increasingly evangelical about Owens Valley water.

In September 1904, he took Mulholland to Owens Valley with only "a mule team, a buckboard, and a demijohn of whiskey," Mulholland later recalled. Despite the hooch, it was the water and not the whiskey that made a believer out of Mulholland. He readily endorsed Eaton's proposal to build an aqueduct. Eaton, meanwhile, was buying water options from Owens Valley ranchers and farmers whose

Newspapers reported that one out of five Angelenos turned out for the opening of the Los Angeles Aqueduct on November 5, 1913.

pastures bordered the river, without disclosing the city's plan. He also purchased a 23,000-acre cattle ranch in Long Valley, most of which he hoped to sell to the city, at a tidy profit, for use as an aqueduct reservoir.

Historians differ on Eaton's motives. Some say he duped Owens Valley residents. Others say his purchases, though cunning, were justifiable because they benefited the city, which lacked the money to buy the land until voters later approved a $1.5 million bond measure. To his dying day, Eaton denied charges that he acted duplicitously.

Grandson John Eaton, who until a year ago lived on one of the last acres of land in Long Valley passed down from his father, Harold Eaton, believes that his grandfather had no need to double-deal. "People were seeking him out to sell their property," he says. "They saw him as this crazy millionaire who wanted to become a cattle baron and who was foolishly overpaying for land. And they wanted to get out." It was a hardscrabble life, what with the valley's short growing season, and the playing out of local gold and silver mines, the market for its produce. Of course, had the sellers known the buyer in the shadows was the city of Los Angeles, they wouldn't have sold their land so cheaply, if at all.

In any event, when the ranchers and farmers learned the real story in 1905—"Titanic Project to Give the City a River" headlined the *Los Angeles Times* that July—they were so angry that Eaton had to leave town for awhile.

The construction of the aqueduct, under the direction of Mulholland, proceeded quickly. To provide power for electric shovels, he erected two hydroelectric plants—still in use today—on creeks that dump into the Owens River. He also built some 500 miles of roads, ran telephone and telegraph lines across 150 miles of desert, and laid down 268 miles of pipe to provide drinking water for the workers.

Conditions were harsh. Temperatures in the Mojave Desert could swing 80 degrees in a single day. "In the winter, it was just as windy and bitter cold as it was hot in summer," Raymond Taylor, the aqueduct's medical director, said at the time. Over the six years of construction on the aqueduct, 43 men died out of the 5,000 or so who worked on it, a toll that some experts say was rather low

S.A. SMYTH/CORBIS

An army of 5,000 men carved the aqueduct out of unforgiving terrain, laying pipe across searing desert and going over, and often through, Sierra rock.

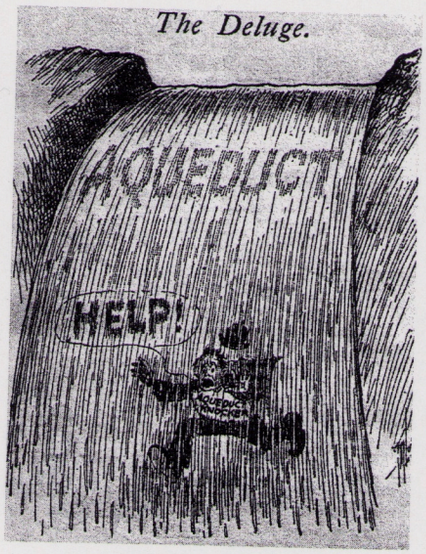
considering the scope of the project and the rugged terrain.

On November 5, 1913, Los Angeles officials staged a grand opening ceremony at the aqueduct's terminus in the San Fernando Valley, with parades, fireworks and speeches, including a famously terse one from Mulholland: "There it is," he said, as the gates opened, "take it."

Eaton did not attend. His years of dreams of a real estate empire had come to naught. Mulholland had balked at Eaton's price for the Long Valley land, which most historians peg at $1 million—and refused to pay it. Consequently, the completed aqueduct at first had no reservoir in the Long Valley area.

For a time, life in Owens Valley remained largely unaffected by the aqueduct. Most farming and ranching took place at the valley's northern end, above the aqueduct's intake point, so the river still provided plenty of water. Valley produce still found a market, however reduced, at local mines, many of which were still operating.

But things changed. People continued to pour into Los Angeles, and several years of drought in the 1920s slowed the aqueduct's flow. To compensate, the city began pumping groundwater directly from the aquifer beneath Owens Valley. Starved of water, local farms and ranches failed. Businesses followed. Some Owens Valley farmers sued Los Angeles and lost. Others began taking water directly from the aqueduct. The city countered by buying valley property in a checkerboard fashion—purchasing one farm but not the one next to it, which pitted neighbor against neighbor.



A 1913 cartoon reflects the view that the Eaton-Mulholland plan was unstoppable.

Owens Valley residents took matters into their own hands at 1:30 A.M. on May 21, 1924. A caravan of cars with about 40 men set out from Bishop, the largest town in Owens Valley, headed 60 miles south, and just north of Lone Pine, dynamited the aqueduct's concrete canal. Six months later, a number of Owens Valley residents, led by local banker Mark Watterson, seized the aqueduct's Alabama Gates spillway, near Lone Pine and opened its gates, sending the precious liquid back into the Owens River.

Mulholland was furious. He dispatched two carloads of gun-toting city detectives to break up the siege. Trying to prevent bloodshed, the Owens Valley sheriff warned them not to start trouble, saying, "I don't believe you will live to tell the tale." The detectives backed down. Soon local families arrived at the spillway, some bearing food; picnic blankets were spread and a huge barbecue ensued. Movie cowboy Tom Mix, shooting a film on location nearby, sent over his mariachi band to perform. The press arrived and took pictures. In the meantime, Watterson's brother, Wilfred, also a banker, went to L.A. and appeared before the Los Angeles Joint Clearinghouse Association, a group of bankers, asking for a new commission to negotiate city payments to the valley. When the bankers agreed, the siege ended peacefully.

But negotiations between the commission and Owens Valley locals, represented by the Wattersons, dragged on. In December 1924, Wilfred Watterson presented the commission with two invoices, one for $5.3 million in reparations to ranchers, the other for $12 million to purchase the remaining land in the valley. The commission refused to pay.

Tensions between city and valley grew. Litigation ensued, but stalled in the courts. The city bought more valley land, displacing farmers and ruining more local businesses. Finally, valley frustrations reached another boiling point. On May 20, 1927, several men detonated explosives outside Mojave, 100 miles north of L.A., destroying a part of the aqueduct. A few days later, more blasts rocked the aqueduct farther north and, on June 4, still another. A train filled with L.A. detectives armed with Winchester carbines was sent to guard the aqueduct.

Though the detectives had no legal right to do so, they placed Owens Valley under martial law. It didn't help. Over the next two months, seven more blasts occurred at sites along the aqueduct, from Mojave in the south to Bishop in the north, damaging pipes and a power plant and downing telegraph lines.

In the end, what broke the valley's spirit was malfeasance by two of its own. In August, the Watterson brothers (whose bank dominated the valley economy) were arrested for embezzlement; they were later convicted on 36 counts. Some said the brothers had merely been trying to stay afloat financially, and helping others stay afloat, by moving money from one business account to another, recording deposits never made and debits already paid. Their defenders pointed out that none of the money ever left Inyo County. The state's prosecuting attorney, an Owens Valley local and a friend of the brothers, was said to have cried while delivering his final argument. The Wattersons were

MULHOLLAND, UNIVERSITY OF CALIFORNIA PRESS (AUGUST 2000)

On May 20, 1927, several men detonated explosives outside Mojave, a hundred miles north of Los Angeles, destroying a part of the aqueduct.

A few ranches and farms still exist in the Owens Valley, but most (such as this homestead near Bishop) had to be abandoned due to a lack of water.

sentenced to ten years in San Quentin and their five banks closed. Posted on the door of one was the message: "This result has been brought about by the last four years of destructive work carried on by the city of Los Angeles."

Fred Eaton, whose plan to sell his Long Valley ranch was stymied by the city, now had worse problems. His son Harold had mortgaged it to the Wattersons' bank in loans totaling $320,000. When the bank failed, the ranch went into receivership and the city purchased it—for less than the $500,000 Mulholland had offered ten years earlier.

Eaton died in 1934 at age 78, his dreams of fortune unfulfilled. "He was bitter," says his grandson John Eaton, "because he felt he'd been made the goat for all the troubles that came to ail the Owens Valley, and because he felt he never got the proper credit for his role in the creation of the aqueduct."

Mulholland, for his part, died a chastened man at 79, a year after Eaton's death. A dam that Mulholland had built in San Francisquito Canyon, outside Los Angeles, collapsed in 1928, less than 12 hours after he had inspected it and pronounced it sound. A wall of water 100 feet high roared down the canyon, sweeping away trees, homes, cars, a railroad trestle and animals, and killing at least 400 people. Mulholland, although cleared of wrongdoing, blamed himself. He soon retired from the water department and became a virtual recluse, a "stooped and silent" old man, Catherine, his granddaughter, says. (In the 1990s, David Rogers, a forensic geologist who studied the dam rupture, concluded that while there were some flaws in the construction, it was a massive landslide that felled the dam.)

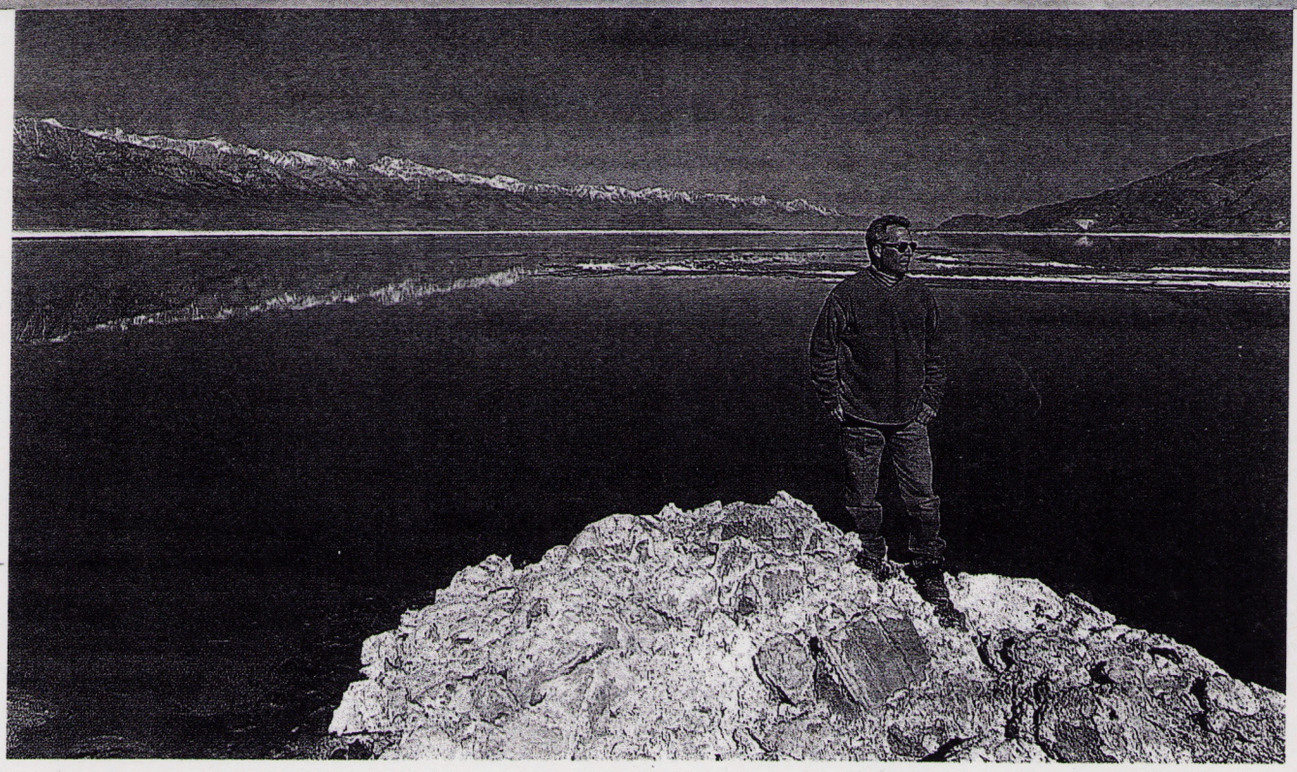
Today most of the people residing in the Owens Valley make their living from tourism, with the majority of skiers, fishermen, campers and so on coming from (where else?) Los Angeles. Some ranches and farms still exist, but most of their fields are leased from the L.A. Department of Water and Power. The bulk of Owens Valley land is empty, its former vitality reduced to groupings of shade trees where houses once stood; long, V-shaped ditches, once used to water fields, now dusty and weed choked; an occasional concrete silo surrounded by sagebrush.

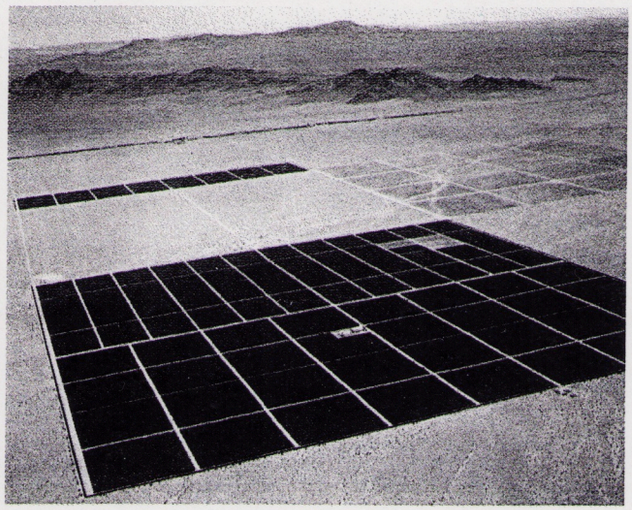
The aqueduct was extended north another 100 miles in the 1940s, to a second large body of water, Mono Lake. Another entire aqueduct was built in 1970 alongside Mulholland's. Almost 100 years have passed since William Mulholland ruled the roost, but for L.A.'s Department of Water and Power engineers, the mandate is still the same: keep the water coming.

I'M STANDING SOMEWHERE IN THE MIDDLE OF OWENS Lake—white, cracked, powder-dry and stretching off in every direction—with Ted Schade, an engineer and senior project manager for a tiny regional agency, the Great Basin Unified Air Pollution Control District. The agency is responsible for enforcing the federal Clean Air Act in Owens Valley, and thanks largely to it, things here are looking up.

Right now, the wind is still, and it's OK to breathe. Yesterday, upwind and north of the lake, I saw a huge white cloud boiling off the lake bed. According to the Environmental Protection Agency, when the wind blows, this lake is the single largest source of particulate matter pollution in the United States.

Schade's agency has been David to the Los Angeles utility's Goliath since the mid-1980s, when the city, responding to a California state law, was required to pay several million dollars a year to monitor the air and figure out how best to stop the pollution (which meant, in effect, that the city paid the salaries of its antagonists). In 1997, Schade's group approved a plan that ordered the city to flood the dry lake bed with water or grow a salt-tolerant grass.





Ted Schade (overlooking Owens Lake) says L.A.'s water wars are here to stay; Cadiz's proposal to store water under land (left) it owns in the Mojave Desert has brought out some vocal opponents.

Where the water came from was up to the city, but of course, the only readily available water was from the aqueduct. "The city just went crazy," says Schade. "They filed a lawsuit, tried to withhold money, and appealed the plan to the state of California."

Then the utility's new general manager, S. David Freeman (now California Governor Gray Davis' energy czar), called a truce. "He just said what the city was doing was wrong," says Schade, "and within a couple of weeks we had an agreement." Grudgingly, the city agreed to have ten square miles of dust control measures in place by 2001, with incremental improvements after that.

By November 2001, diversion of some of the aqueduct's precious water had begun; by January 2002, more than 7,600 acres of dusty Owens Lake bed had been submerged in a few inches of water. But more remains to be done. In other sections of the lake bed, the city is currently planting more than 2,600 acres with hardy native grass that tolerates high salt and both freezing and blistering temperatures. The project is scheduled to be complete by 2006, by which time Los Angeles should have implemented dust control measures on more than 14,000 acres of Owens Lake bed, using about 50,000 acre-feet of water a year, enough to supply almost a quarter of a million people.

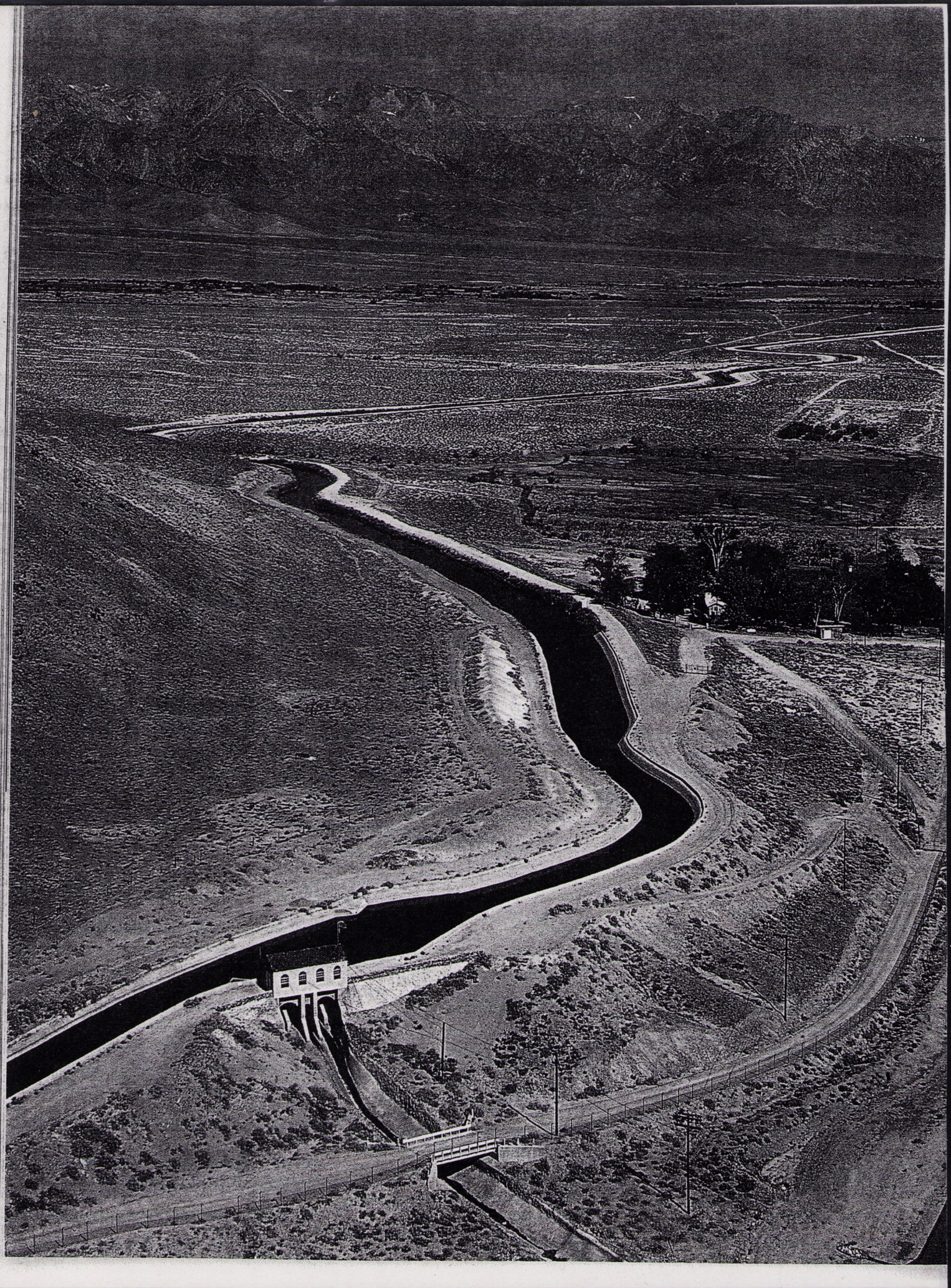
If water politics in Southern California today are no longer as rough-and-tumble as in Mulholland's era, controversy continues to surround the struggle to meet the demand for water in the fast-growing region.

In one recent flap, water officials representing the greater Los Angeles area have struck a preliminary agreement with a private firm that owns large parcels of the Mojave Desert and controls access to an aquifer there. The firm, Cadiz Inc., proposes to service Southern California by pumping water out of the aquifer as well as using it to store water diverted from the Colorado River. The project, though approved by the Department of the Interior, still faces opposition from California Senator Dianne Feinstein and some environmentalists. In stating their concerns that drawing water from the aquifer will damage the fragile desert ecosystem, opponents also note that the aquifer runs under two dry lakes, and specifically cited what happened to Owens Lake as an example of what could go wrong.

Maybe that will be Owens Lake's legacy, says Schade: an object lesson for what not to do. "Hopefully, everyone has learned from the mistakes that were made here."

Los Angeles-based freelancer Mark Wheeler wrote last for SMITHSONIAN *about volcanic unrest in California's Long Valley.*

CHAD SLATTERY; CADIZ INC.



Lower Owens at a crossroads

Inyo County, LADWP and environmentalists tracking a river reborn

By Deb Murphy

The Los Angeles Department of Water and Power had the Herculean task of juggling the Owens River population, including anglers, ranchers, wildlife, fish and the dream of drawing tourists to hike and kayak a river coming back to life.

Even before Mayor Antonio Villaraigosa opened the gates below Tinnemaha on Dec. 6, 2006, sending the first full flow down the river bed since the LADWP Aqueduct opened in 1913, the department was building channels to allow bass and other warm-water species to travel up and down the river with detours to the ponds at the base of the Whites. Over the past seven years, Brian Tillemans, LADWP's watershed resources manager, developed a system that allowed cattlemen to confine their herds while maintaining an open-door policy for recreation. Department staff even provided for migrating elk and deer. Following the game trails along the valley, staff identified where the herds crossed the cattle fencing and incorporated lowered rods in the fence line. The cattle stay in, the deer jump the fence and go on their way.

The environment surrounding the river banks was moving toward the original vision. Schools are cataloging the area's recovery; volunteers regularly open tule-clogged sections of the river; some sections east of Lone Pine look like the high-desert version of the Garden of Eden. But, the river is being choked by tules and the Memorandum of Understanding that required a flow of 40 cubic feet per second at the southern most point of the river, above the dry Owens Lake.

Tillemans and partners in the MOU had eluded to the difficulties of restoring a river to its natural state with artificial flows. The issue came to a head at the Jan. 13 meeting of the Technical Group and the report of the MOU consultants Ecosystems Sciences.

According to Mark Bagley, Sierra Club representative on the MOU, following flow studies by Inyo County, LADWP and California Department of Fish and Wildlife, the 40 cfs flow was codified in 2007. Ecosystem Sciences didn't agree with that number then and reiterated its dissent year after year. "We are not where we want to be," consultant Mark Hill told the Technical Group, "we are at the tipping point."

At issue is, most obviously, the tule growth that has cloaked the Owens' banks and encroached into the channel. Even with seasonal flows, corresponding to the spring run-off, of 200 cfs, the tules thrive. Total eradication of tules is not the goal, according to the consultants. "If you have no tules," said consultant Bill Platts, "you have no bass. Tules clean up the turbidity. If you had no tules, the river would be an aqueduct."

The vision of cottonwood and willow trees propagating in the spring has not happened to the extent expected. While the trees cooperate, dropping seeds that drift in the breeze to new ground, that ground is dry and hostile. Rivers are supposed to flood their banks in the spring; the Lower Owens does not.

The threat to the developing fishery lies at the bottom of the river/canal in the form of a biomass of decomposing vegetation that sucks the oxygen out of the water. Waterways with low levels of oxygen are fish coffins, not healthy fisheries.

There are other impacts from the artificial nature of the river flows. North of Lone Pine, the river historically broke into channels before finding its way to the Owens Lake. Now those channels have silted up, encouraging dense tule growth and turning the area into a marsh.

The consultant's solution, in its simplest form, is to mirror nature with pulse flows in excess of 200 cfs, during the spring thaw and runoff, then to drop the flows down below the mandated 40 cfs during the summer. The high pulse flows would break down the biomass, flood out sections of tules and reoxygenate the river. The low summer flows, natural in a high desert river, would also help control the rampant tule growth. The consultants maintain the 41,000 acre-feet of water that has flowed down the river channel annually will be adequate, the volume just has to be managed more effectively.

File photo

The newly reborn Lower Owens River is flowing, but managers are still experiencing trouble with the flows and tules, which have invaded the riverbed.

In what appears to be an inducement for LADWP's agreement to the increased flows, the 50 cfs pumpback volume restriction would be lifted, allowing the utility to reclaim much of the water during the pulse flow periods.

In 2007, when the flow rate was agreed to by the MOU partners, the LADWP, Inyo County, California Department of Fish and Game, the California State Lands Commission, the Sierra Club, the Owens Valley Committee and Carla Scheidlinger, Ecosystem Sciences disagreed. In a letter to the parties, Hill was blunt: "The proposed criteria you have apparently agreed to may meet political goals, but they do not complement the biological goals. Setting aside for the moment the problem that the criteria have no foundation in biology or ecology, there is a fatal flaw in the criteria."

By the end of the Jan. 13 Tech Group meeting, it was agreed that a River Summit was necessary to bring all the MOU partners together to arrive at an adaptive management plan. By mid-March, no meeting date had been set. If a new management plan is not in place by spring runoff, any change will have to wait until spring of 2015. "We've been 95 percent done (with an agreement to alter flows and recovery rates) for a couple of years," said county Water Department Director Bob Harrington, "and nothing's been signed."

The reluctance to make long-term changes, beyond the one-year stipulation orders to the MOU that have allowed for alterations in flows and recovery in the past, is based in 100 years of mistrust. The LADWP wants to avoid lawsuits; some of the partners fear LADWP will wiggle through loop holes in a permanently altered MOU.

As those involved continue to look for a safe political solution, the biomass and tules continue to degrade a river that should be centerpiece of the Owens Valley.

Mitigation work continues at Owens Lake

June 2013 agreement between LADWP, Great Basin, sets plan for Keeler Dunes, dust control mitigation work

By Mike Gervais

Great Basin Unified Air Pollution Control District and the Los Angeles Department of Water and Power, under orders of the courts, settled a dispute about dust mitigation projects on Owens Lake this past year, opening the door to the final phase of dust mitigation work.

In 2012, the LADWP filed a lawsuit against Great Basin Unified Air Pollution Control District and Air Pollution Control Officer Ted Schade, claiming that the utility had met its dust control obligations on the lake.

In the lawsuit, filed in Fresno courts, the LADWP said it felt it had mitigated all dust impacts it created by diverting water from the Owens Valley to Los Angeles, claiming that the latest dust control measures that were ordered, Phase 7a were beyond the department's responsibility, and were creating an unnecessary burden on LADWP rate payers.

The lawsuit was supported by the Los Angeles City Council, Mayor Antonio Villaraigosa and city business groups as a means to avoid further air pollution controls.

The lawsuit was opposed by the U.S. Department of Justice, the U.S. Environmental Protection Agency and the California Attorney General's Office, which joined the Air Pollution Control District by filing legal papers to demonstrate that the City's lawsuit lacked legal merit. U.S. District Judge Anthony W. Ishii agreed with the District and granted judgment against the City in a twenty-one page opinion that was released in May, 2013.

In late June, Great Basin and the LADWP reached an agreement that would allow dust mitigation work to proceed.

Approved by the LADWP on June 26 and by Great Basin on June 27, the agreement permitted the LADWP to work around certain culturally sensitive sites identified within the Phase 7a dust mitigation project area and created a Cultural Resources Taks Force to evaluate any culturally sensitive sites and advise the department on how to proceed, or avoid, work within culturally sensitive sites.

The agreement also relieved the LADWP of all obligations to mitigate dust impacts created by the Keeler Dunes, provided that the department provides the Great Basin with $10 million for an environmental impact analysis, design, permitting, construction, operation, maintenance, management, monitoring and other activities directly related to dust control on the dunes.

"This agreement expedites the control of health-impacting air pollution from the Keeler Dunes while acknowledging the importance of saving fresh water and protecting cultural resources," Schade said after the agreement was approved. "It also shows that Great Basin and LADWP can work together to acknowledge and balance each other's needs."

To meet water savings goals, the agreement allows the LADWP to reduce the thickness of its gravel spreading dust control efforts and allows the DWP to begin implementing brine shallow flooding.

"We believe that today's agreement represents a first step towards resolving more of the outstanding issues we face as we attempt to safeguard scarce water supplies while protecting air quality in the Owens Valley," then-LADWP General Manager Ron Nichols said.

In regards to the Keeler Dunes, the agreement states that, once the $10 million payment has been made to Great Basin (no more than 90 days after the agreement is approved), "LADWP shall have no responsibility for the design, permitting, construction, operation, maintenance, management, monitoring and other activities directly and exclusively related to the Keeler Project for as long as dust controls are required."

The agreement also modifies Phase 7a Stipulated Order for Abatement that Great Basin ordered in 2011.

Under the agreement, Great Basin has extended the LADWP's deadline to complete dust mitigation in the 7a area from Dec. 31, 2013 to Dec. 31, 2015. Also, the LADWP's Dec. 31, 2015 deadline for managed vegetation controls has been extended to Dec. 31, 2017.

The agreement also states that those deadlines are based on "timely availability of necessary leases from the State Lands (Commission) and of necessary permits from other agencies." That means that if the permitting or approval process for the projects is held up by an agency other than the LADWP, the deadlines can be readjusted.

In the agreement, Great Basin also agrees to "remove" eligible cultural resource areas from Phase 7a. That means that the LADWP will not be required to do dust control in areas with identified cultural resources (about 328 acres) during work on Phase 7a. Those areas that are sensitive cultural resource sites will be moved to the newly created Phase 7b.

Photo by Jane McDonald

A group of protestors hold a demonstration in early 2014 to raise awareness about dust mitigation work planned on that lake that could impact culturally sensitive sites that are protected under an agreement between Great Basin Air Pollution Control District and the Los Angeles Department of Water and Power.

Photo courtesy Great Basin Unified Air Pollution Control District

The Los Angeles Department of Water and Power has spent more than $1.2 billion on dust mitigation on Owens Lake, and began work this year on Phase 7a of mitigation work. To date, the LADWP has used shallow flooding, gravel and other means to reduce dust emissions on the lake.

If the LADWP identifies any new culturally sensitive sites while doing dust control on Phase 7a, the utility can have those areas added to the Phase 7b project.

That portion of the agreement was exercised in February of 2014, when Lone Pine Tribal Preservation Officer Kathy Bacroft identified a culturally sensitive site located in Phase 7a. Two archeologists evaluated the site, finding that it did contain Native American artifacts, and recommended that it be transferred to Phase 7b and be subject to review by the task force.

At the time, Fifth District Supervisor Matt Kingsley, who helped negotiate the terms of the agreement, called it a win-win-win.

"This is a benefit for the rate payers of the city of L.A. because it will reduce water on the lake," Kingsley said in June. "This will be a benefit for the residents of the Owens Valley because instead of litigating we are doing something to control dust on the lake and it is a benefit for local tribes because it outlines it outlines a way to deal with cultural resources on the lake."

Kingsley added that the agreement "also sets a new standard for resolving issues between LADWP and Great Basin instead of litigating. That's been one of my goals: get things done instead of paying lawyers."

With the agreement in place, the LADWP has continued its work on Phase 7a and is on track to complete the dust mitigation project by the 2015 deadline.

Los Angeles Department of Water & Power

OWENS LAKE TRAILS

A Public Access, Education and Recreation Project
of the LADWP Owens Lake Dust Mitigation Program

WELCOME

Welcome to the City of Los Angeles Department of Water and Power (LADWP) Owens Lake Trails.

Partnering with a diverse group of local and regional stakeholders and other interested parties, LADWP created three public access trails and viewing areas as part of the Owens Lake Dust Mitigation Program (OLDMP). The viewing areas are accessed by designated entry points and routes identified on the maps at right.

LADWP initiated the OLDMP in 2001, and once fully implemented, will have mitigated dust by 99% on approximately 48.6 square miles of Owens Lake. LADWP is using native vegetation, shallow flooding and highly effective water efficient measures including, tillage and gravel, to mitigate dust emissions on the lake. Up to 80,000 acre-feet of water per year has been used for mitigating dust emission on Owens Lake playa. In addition to controlling dust, water-based dust control measures provide habitat for wildlife – enabling an important stopover location for migratory waterfowl and shorebirds.

Before beginning your journey on the Owens Lake Trails, please familiarize yourself with the Public Access Guidelines on page 12, and carry ample water for all vehicle occupants.

To learn more about the City of Los Angeles' stewardship of Owens Lake and other City of Los Angeles land in the Owens Valley, visit: **wsoweb.ladwp.com/Aqueduct.**

Enjoy your visit!

DUST MITIGATION MEASURES

Shallow flood

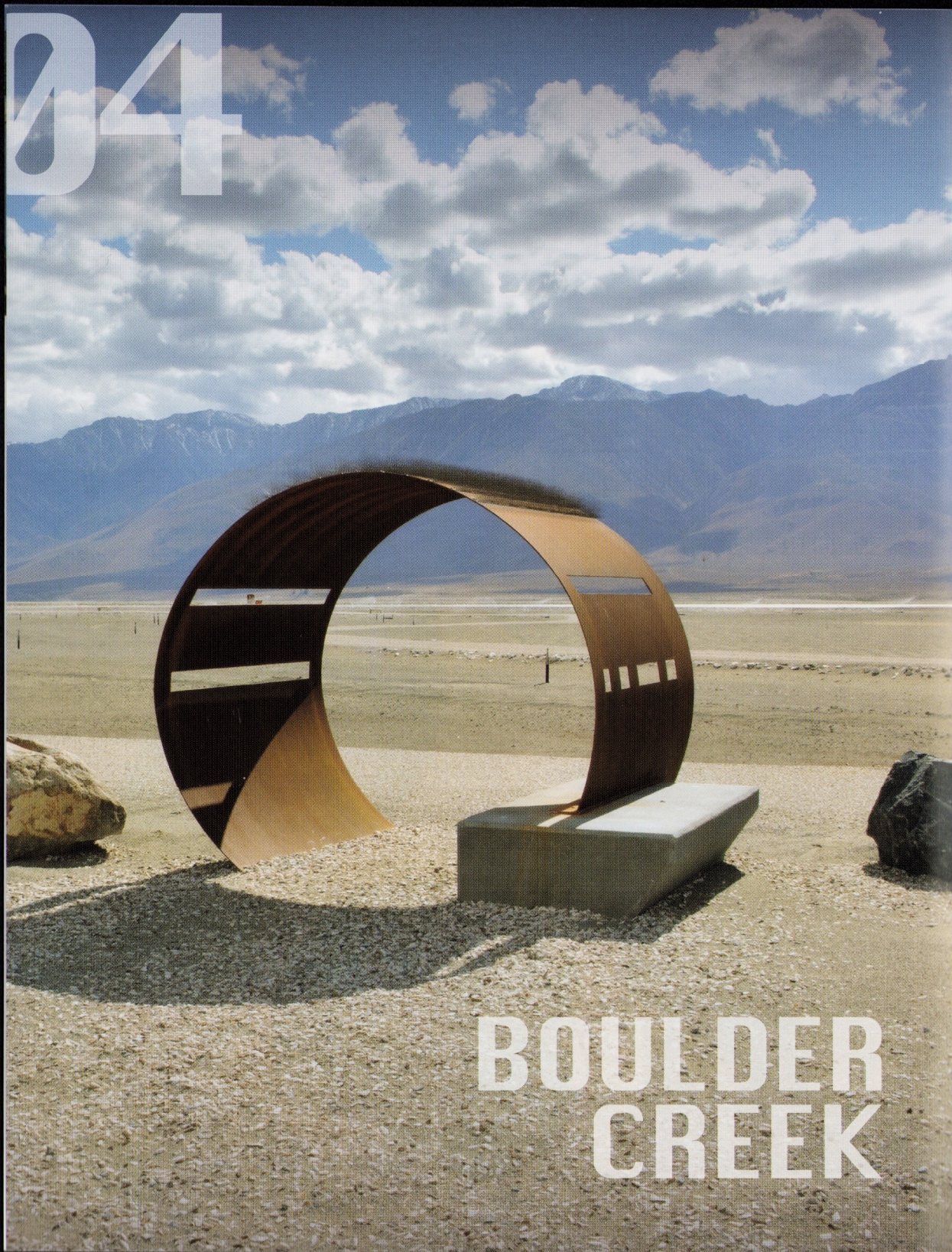
Gravel

Managed Vegetation

Tillage

Photography by Art Mochizuki, Ray Ramirez and Keith Leon

PUBLIC ACCESS ROUTES & TRAILHEADS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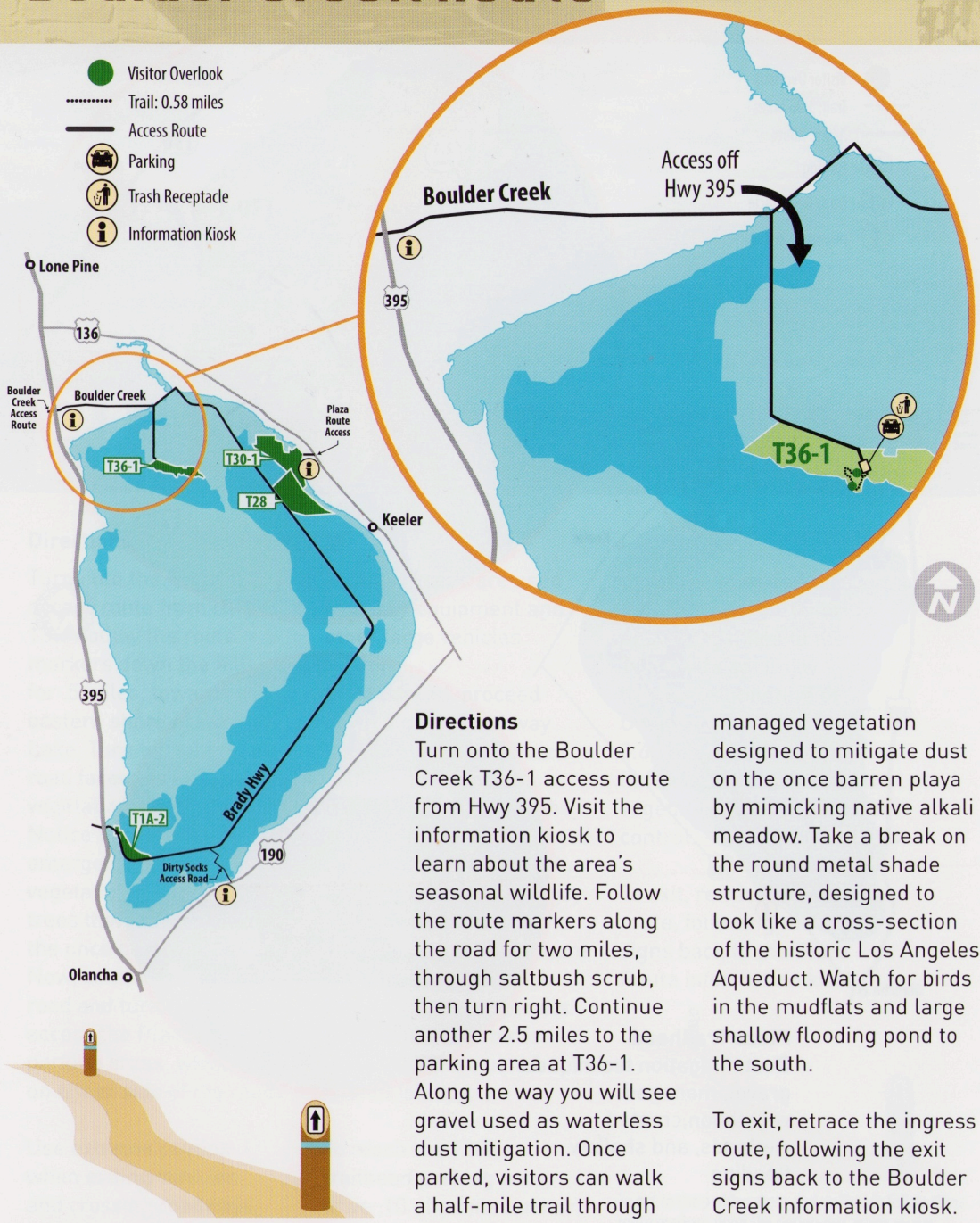
BOULDER
CREEK

Boulder Creek Route



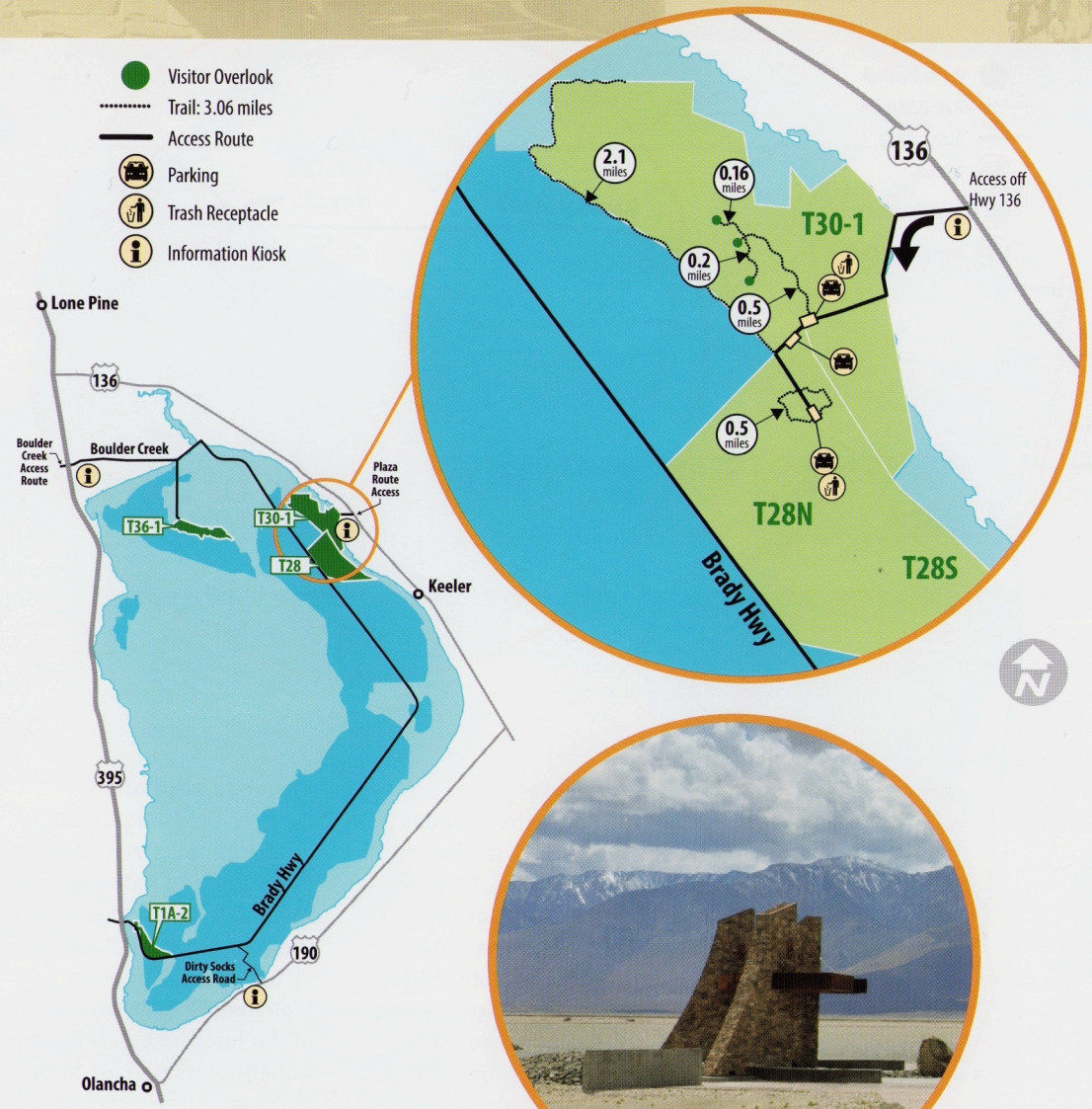
To get to the parking areas and trailheads follow these route markers along the designated access routes.

Directions

Turn onto the Boulder Creek T36-1 access route from Hwy 395. Visit the information kiosk to learn about the area's seasonal wildlife. Follow the route markers along the road for two miles, through saltbush scrub, then turn right. Continue another 2.5 miles to the parking area at T36-1. Along the way you will see gravel used as waterless dust mitigation. Once parked, visitors can walk a half-mile trail through managed vegetation designed to mitigate dust on the once barren playa by mimicking native alkali meadow. Take a break on the round metal shade structure, designed to look like a cross-section of the historic Los Angeles Aqueduct. Watch for birds in the mudflats and large shallow flooding pond to the south.

To exit, retrace the ingress route, following the exit signs back to the Boulder Creek information kiosk.

Plaza Route



Plaza Trailhead
Dust mitigation techniques: gravel, managed vegetation,created wetlands, and shallow flooding

PLAZA

Directions

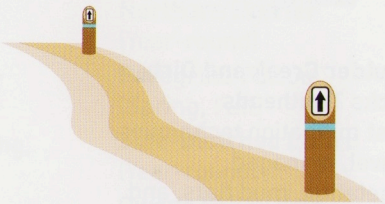
Turn onto the Plaza T30-1 access route from Hwy 136. Follow the route markers down the hill for .5 miles, towards the eastern shore of Owens Lake. Turn left where the road faces the managed vegetation wetlands. Notice the abundant emergent wetland vegetation and scattered trees that have colonized the once barren playa. Now, continue down the road and turn right to access the Plaza Trailhead parking areas, which are on either side of the road.

Use extreme caution when exiting vehicles and crossing roadways, as these roads are used by heavy equipment and other large vehicles.

Once parked, proceed down a gravel pathway to the Plover Wing Plaza .5 miles to the north. Along the way, notice the shallow flooding, managed vegetation, and gravel dust mitigation methods. Enjoy a 2.1 mile walk along the pond and experience more of Owens Lake through three interpretive panels. Look for various birds using the constructed habitat islands.

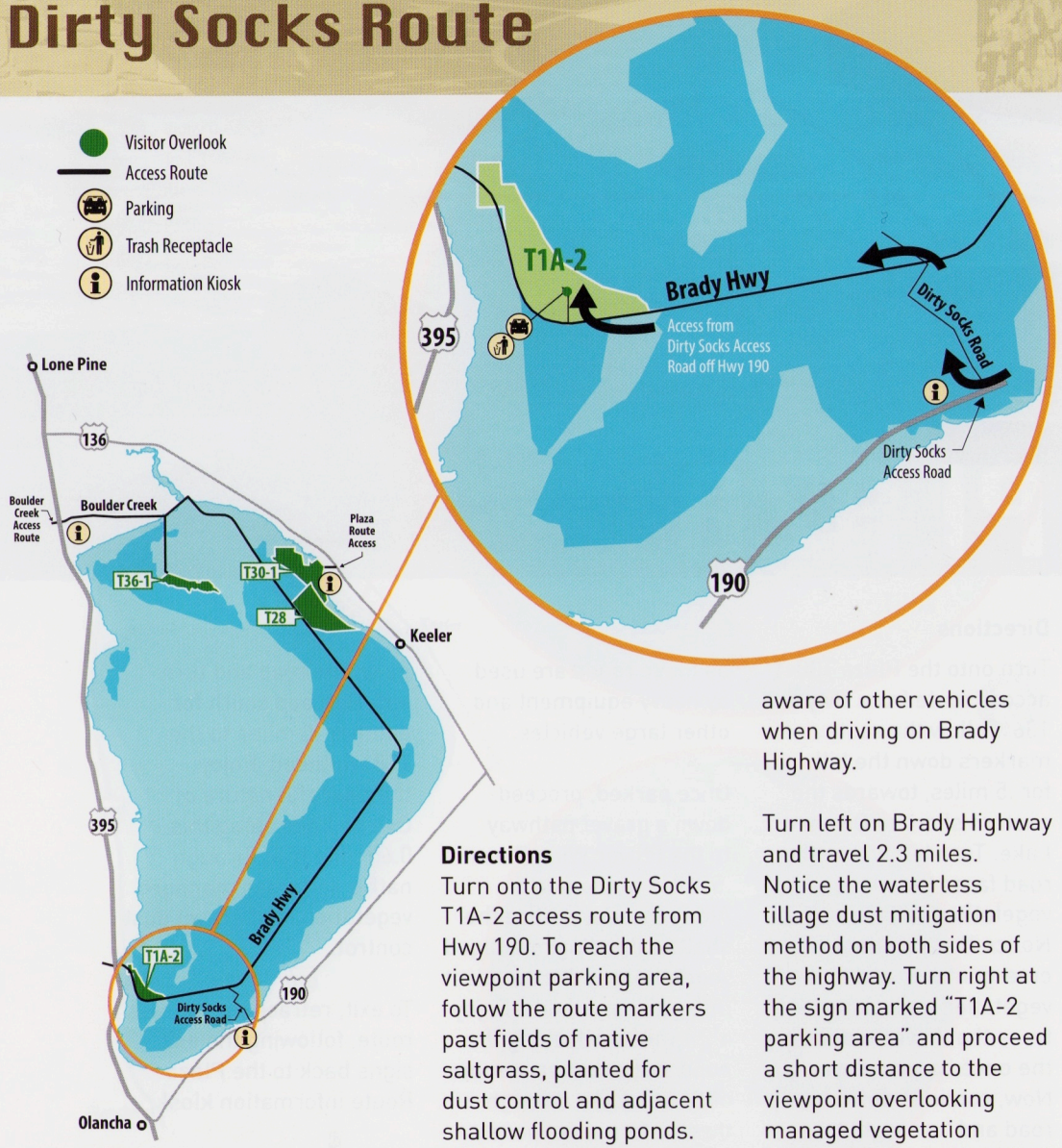
To reach the T28N trailhead parking area, drive .10 of a mile further down the road and turn left. Proceed south for another .5 miles to the T28 trailhead. Enjoy the peaceful nature of Owens Lake along this 0.65 mile trail through native saltgrass managed vegetation, and gravel dust control.

To exit, retrace the ingress route, following the exit signs back to the Plaza Route information kiosk.



To get to the parking areas and trailheads follow these route markers along the designated access routes.

Dirty Socks Route



Boulder Creek and Dirty Socks Trailheads
Dust mitigation techniques: gravel, managed vegetation, mud flats, and shallow flood

Directions
Turn onto the Dirty Socks T1A-2 access route from Hwy 190. To reach the viewpoint parking area, follow the route markers past fields of native saltgrass, planted for dust control and adjacent shallow flooding ponds. The route takes one turn to the right and another to the left before intersecting with Brady Highway, the main road for construction traffic on Owens Lake. Please use caution and be aware of other vehicles when driving on Brady Highway.

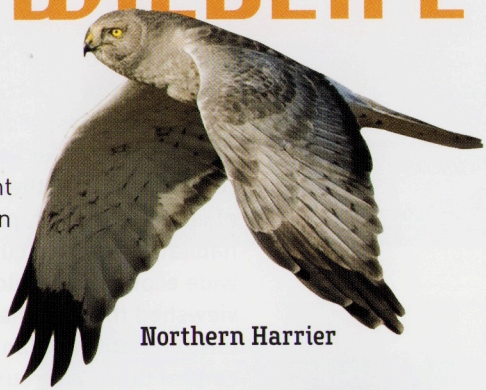
Turn left on Brady Highway and travel 2.3 miles. Notice the waterless tillage dust mitigation method on both sides of the highway. Turn right at the sign marked "T1A-2 parking area" and proceed a short distance to the viewpoint overlooking managed vegetation composed of a native alkali meadow.

To exit, retrace the ingress route, following the exit signs back to the Dirty Socks information kiosk.

OWENS LAKE WILDLIFE

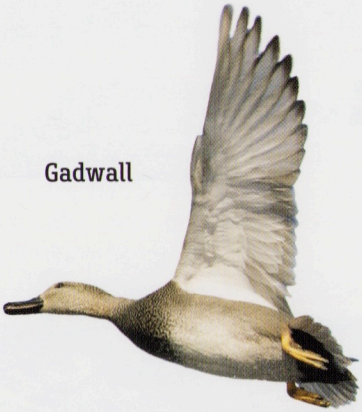
The construction of dust mitigation features on Owens Lake have created incredibly productive habitat for birds and other wildlife. In spring and fall, tens of thousands of shorebirds, waterfowl, and other migratory bird species stop-over to rest and feed on alkali flies, brine shrimp, and other invertebrates in the shallow flooding dust control areas and natural springs around the lake.

Birds that utilize this habitat travel from as far south as South America and as far north as Canada. Over 100 different species of birds have been observed at Owens Lake. In a single day during peak migration, over 75,000 birds can be observed using Owens Lake. Fewer numbers of birds breed and winter at Owens Lake during other parts of the year.



Northern Harrier

American Avocet



Gadwall

Green-Winged Teal

Common Species

(with main season of abundance)

Northern Shoveler (Spring, Fall)
Gadwall (Spring, Summer)
Green-Winged Teal (Spring, Fall)
Eared Grebe (Spring, Fall)
Ruddy Duck (Spring, Fall, Winter)
American Avocet (Spring, Summer)
Black-Necked Stilt (Spring, Summer)
Western Sandpiper (Spring, Fall)
Snowy Plover (Spring, Summer)
Least Sandpiper (Spring and Fall)
Wilson's Phalarope (Fall)
Red-Necked Phalarope (Fall)
California Gull (Spring and Fall)
Horned Lark (Year-round)
American Pipit (Fall, Winter)
Savannah Sparrow (Year-round)
Northern Harrier (Year-round)
Peregrine Falcon (Spring, Fall)
Side-Blotched Lizard (Year-round)
Owens Valley Vole (Year-Round)

Land Art Installation

The trailheads feature a land art installation designed by Perry Cardoza of Nuvis Landscape Architecture and engineered by CDM Smith. The installation is part of the public access, education and recreation component of the Owens Lake Dust Mitigation Program and was required to meet the overall program's requirements of controlling dust; protecting, creating and enhancing habitat, protecting cultural resources; providing area-wide economic development, and the creation of a viewshed that is in harmony with the surrounding environment. The land art installation includes a central plaza, surrounding paths, and natural art and architectural elements.

Plaza Trailhead

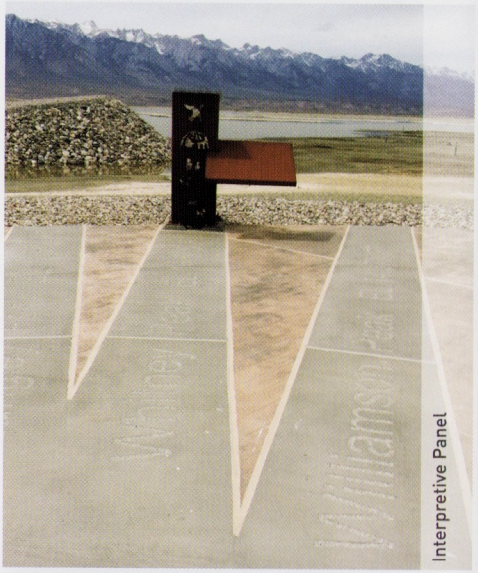
The Plaza Trailhead's central feature is Plover Wing Plaza, inspired by the Snowy Plover and serves as a gathering place for visitors. The sloping stone columns of the shade structure reflect the shape of the Snowy Plover's curved wing while in flight. Cut-outs in the steel overhang structure cast silhouettes on the concrete of birds in flight. In the center of the plaza is a large boulder nestled in a "nest" of smaller rocks. Snowy Plover are known to nest in gravel on the ground.

Looking out over the lake, visitors can see 14 mound-like structures intended to look like whitecap waves. These metaphorical whitecaps are varied in size and placed in locations that will assist with dust control by keeping surrounding lake particles from being gathered up by the wind. The large rocks used to create the whitecaps create habitat for small reptiles, insects and mammals.

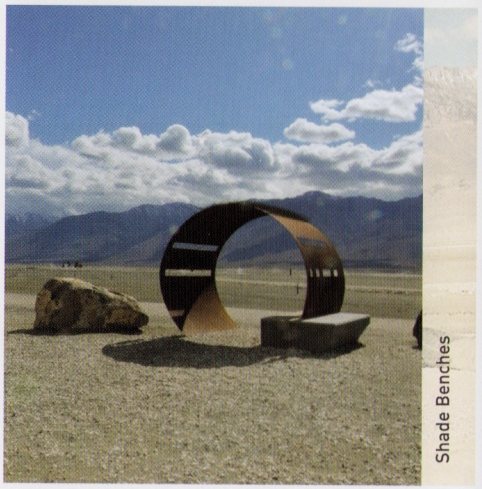
Surrounding the plaza structure are gravel paths and roads that lead visitors to habitat islands, marshes, reflecting ponds, and local fauna, creating public access opportunities for bird watchers, artists, scientists and all others.

Boulder Creek and Dirty Socks Trailheads

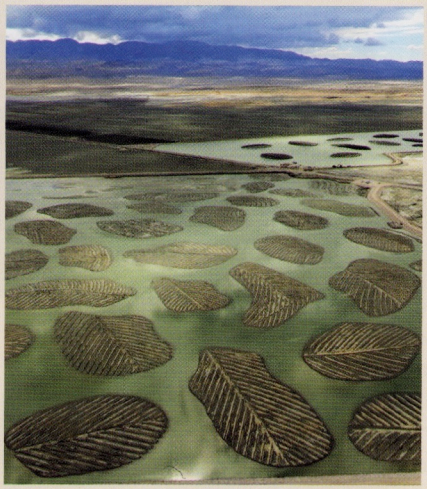
The Boulder Creek and Dirty Socks locations feature round metal shade structures with benches that mimic a cross-section of the historic Los Angeles Aqueduct.



Interpretive Panel



Shade Benches



Habitat Islands

Aerial view of man-made habitat islands nearest to the Dirty Socks Trailhead.

More Information

Owens Lake Master Project Document
http://www.ladwp.com/docs/OPLADWP050832

/LADWP @LADWP /LADWP1 /LADWP

Public Access and Safety Guidelines

For your safety and protection of wildlife, please adhere to the following public access guidelines. Enjoy your visit!

Please drive only on maintenance berm roads and park only in designated parking areas. Maintenance berm roads are not paved, may be narrow, and are used by heavy construction vehicles.

Please do not stop or exit your vehicle on any maintenance berm road unless in a designated parking area.

Please slow down and yield to construction vehicles and heavy equipment.

Please do not drive on muddy surfaces or in unauthorized areas since you will be responsible for any and all costs associated with recovery or extraction of your vehicle.

Please do not enter areas where construction and maintenance activities are taking place. Seasonal road closures may occur throughout the year due to wildlife, weather, and construction and maintenance activities.

Please walk only on marked walkways or paths.

Please do not consume water from any part of the lake as it is not safe for consumption.

For your safety, please do not enter any irrigated or flooded areas on Owens Lake playa.

Please deposit trash, of any kind, into designated waste bins.

Please do not exceed a speed limit of 25 miles per hour; unless otherwise posted. Driving at or below 25 miles per hour will help prevent dust emissions from the unpaved maintenance berm roads and protects the wildlife that may be resting on the maintenance berm roads.

Please keep dogs and any other pets leashed at all times to protect birds and other wildlife from any harm or injury.

Please call 911 in case of an emergency. Please be aware that cellphone reception may not be available in all areas of Owens Lake.

Please do not start any fires.

Please do not camp at any time on Owens Lake.

For any questions on public access or safety call (760) 876-4109.

Owens Lake local history binder

Compiled by Bob Larson (1934-2024).

Collection includes newspaper articles (primarily *Inyo Register* of Bishop, Inyo County, California and *The Los Angeles Times*); magazine articles; pamphlets; press releases; brochures; website printouts; and other documents related to Owens Lake.

Items mostly date between 2000-2020 and often concern the dry lake's dust hazards; lawsuits between ecological organizations / Great Basin Institute / Inyo County and the City of Los Angeles; dust mitigation efforts by Los Angeles Department of Water and Power (commonly referred to as LADWP or DWP); the Los Angeles Aqueduct, which opened in 1913; and the Lower Owens River Project (LORP) restoration effort. Contents date primarily between c. 2005 and 2020.

Background on Owens Lake (from Wikipedia): "Owens Lake is a dry lake in the Owens Valley on the eastern side of the Sierra Nevada in Inyo County, California. It is about 5 miles (8.0 km) south of Lone Pine. Unlike most dry lakes in the Basin and Range Province that have been dry for thousands of years, Owens held significant water until 1913, when much of the Owens River was diverted into the Los Angeles Aqueduct, causing the lake to desiccate by 1926. In 2006, 5% of the water flow was restored. As of 2013, it is the largest single source of dust pollution in the United States, and has been known since at least the 1990s as a pervasive source of fine alkaline dust containing harmful levels of particulates and chemicals."

From the Inyo County Free Library Local History Room Collection. Uploaded to the Internet Archive by Inyo County Free Library in February 2026.

Binder contents (in order of appearance):

Undated press release / informational packet about the Lower Owens River Project (LORP) from the Bishop office of the Los Angeles Department of Water and Power (LADWP); states history of negative effects of water diversion by the city of Los Angeles in regard to Owens River, and states future goals related to the LORP

Newspaper clipping: Unknown publication and date: "Eastern Sierra History: The 'Wonderful Discovery'" by Dave Babb

Newspaper clipping: Unknown publication, hand dated 13 Nov 2012: Letter to the editor "High noon at Owens Lake" by Daniel Pritchett of Bishop

Newspaper clipping: Unknown publication, hand dated 3 March 2012: Letter to the editor "Karmic justice" by Jack Pound of Independence

1999 brochure: “Owens Dry Lake – A brochure designed to increase citizen awareness of recent efforts to reduce fugitive dust emissions in the Owens Valley Planning Area”; appears to be authored by the Owens Valley Indian Water Commission.

Newspaper clipping: *Los Angeles Times*, 31 July 2000, p. A3, A20: “Owens Valley Dust to Settle, but Not Fears” by Eric Bailey

Newspaper clipping: *Los Angeles Times*, 10 June 2012, p. A33, A34: “Water War Resurges” by Louis Sahagun

Newspaper clipping: *Inyo Register*, 23 Feb 2012, p. A1: “DWP, Great Basin at odds over Owens Lake dust work” by Mike Gervais

Newspaper clipping: *Inyo Register*, 23 Feb 2012, p. A4: “Improving air quality at Owens Lake” by James B. McDaniel, “senior assistant general manager for the Water System of the Los Angeles Department of Water and Power”

Newspaper clipping: *Inyo Register*, 1 March 2012, p. 4: “Why won’t LADWP finish cleaning up our air?” by Theadore D. “Ted” Schade, “Air Pollution Control Officer for the Great Basin Unified Air Pollution Control District”

Newspaper clipping: *Inyo Register*, 20 Oct 2012, p. A4: “No choice but to file suit against Great Basin” by Ron Nichols, “general manager of the Los Angeles Department of Water and Power”

Newspaper clipping: *Inyo Register*, 23 June 2012, p. A1, A3: “DWP tells state board it’s ‘done’ at Owens Lake” by Mike Gervais

Newspaper clipping: *Inyo Register*, 23 Oct 2012, p. 4: “LADWP could choose to obey the law” by Theadore D. “Ted” Schade, “Air Pollution Control Officer for the Great Basin Unified Air Pollution Control District”

Newspaper clipping: *Inyo Register*, 30 May 2020, p. 1, 3: “Proposal would put Owens Lake on National Registry” by Terrance Vestal

Newspaper clipping: *Inyo Register*, hand dated 18 Oct 2012: “LADWP files lawsuit against Great Basin”

Newspaper clipping: *Los Angeles Times*, 21 Oct 2012, p. 76: “Stop the Water Waste!” advertisement from the Los Angeles Area Chamber of Commerce in support of the LADWP’s recent lawsuit against Great Basin Institute / discouraging further dust mitigation efforts in the Owens Valley

Newspaper clipping: *Inyo Register*, 30 Mar 2013: “LADWP developing long-term dry lake plan”, by Mike Gervais

Newspaper clipping: Unknown publication, hand dated 22 Feb 2014: “Tribes Protest LADWP Work at Historical Site” by Vane

Business card for Jennifer Little, Associate Professor of Art at University of the Pacific, versa depicting Los Angeles Aqueduct

Newspaper clipping: *Inyo Register*, 30 Nov 2013, p. 14: “Annual Audubon event features dinner, bird talk”

Newspaper clipping: Unknown publication / date: “Notice of Availability of a Draft Environmental Impact Report and Notice of Public Meeting for the Proposed Owens Lake Phase 7A Control Measures Project”; meeting took advertised as to take place 26 Feb 2013 at LADWP Sulfate Facility, 111 Sulfate Road, Keeler, California

Newspaper clipping: *Territorial Review Monthly*, Feb 2009, p. 13: “The Backyard Historian: When the County Ranchers Took a ‘Water Picnic’” by Chris Langley; details the Nov 1924 occupation by Inyo County residents of the Alabama Gates of the Los Angeles Aqueduct near Lone Pine

Newspaper clipping: *Territorial Review Monthly*, Feb 2009, p. 13: “‘Silver and Water’ Art Project Nears Completion” by Chris Langley; details installation of art project at former Pittsburgh Plate Glass Company factory on the western edge of Owens Lake c. 2009

Newspaper clipping: *Inyo Register*, 9 Jun 2015, p. 4: “Letters to the Editor – Governor could save California from drought” by Michelle Randolph Whitford of “Owens Valley”

Newspaper clipping: *Inyo Register*, 4 Apr 2013, p. 4: “Letters to the Editor – First they drained the lake, now they want to pump out what’s left” by Sally Manning, Bishop CA

Postcard: Jennifer Little, University of the Pacific; versa: undated photo of remnants of Owens Lake

Motor Touring in the Eastern Sierra, front cover: “A 1934 Ford Model 40 traveling the back roads of the Alabama Hills”

Newspaper clipping: *Inyo Register*, 29 Sep 2015, p. 4: “An Open Letter to Marcie Edwards, GM of LA DWP” [Part 1 of 3] by Harvey Wills, “a native of Owens Valley” and retired LADWP employee

Newspaper clipping: *Inyo Register*, 1 Oct 2015, p. 4: “An Open Letter to Marcie Edwards, GM of LA DWP” [Part 2 of 3] by Harvey Wills, “a native of Owens Valley” and retired LADWP employee

Newspaper clipping: *Inyo Register*, 1 Oct 2015, p. 4: “An Open Letter to Marcie Edwards, GM of LA DWP” [Part 2 of 3] by Harvey Wills, “a native of Owens Valley” and retired LADWP employee

Newspaper clipping: *Inyo Register*, 3 Oct 2015, p. 4: "An Open Letter to Marcie Edwards, GM of LA DWP" [Part 3 of 3] by Harvey Wills, "a native of Owens Valley" and retired LADWP employee

Magazine article: *Inside the Eastside*, 2016, p. 21: "On the wings of snowy plover: Owens Lake Trails offer unique bird watching experience" by Kristina Blüm

Newspaper clipping: *Los Angeles Times*, 28 Oct 2012, p. A33, A38: "Man versus a metropolis: An Owens Valley air district official demands that L.A. reduce dust storms more than it has. The city responds by taking him and the agency to court." By Louis Sahagun

Newspaper clipping: *Inyo Register*, 24 & 25 Nov 2012, p. 1 & 5: "State board rules LADWP needs to continue dust control" by Mike Gervais

News website printout of article: *City Watch LA*, 20 Jan 2014: "Shocker: First 7 Weeks of Your Water Bill Paying for Owens Lake Dust Bowl Costs" by Jack Humphreville

Newspaper clipping: *Inyo Register*, 22 Dec 2012, p. A1: "Court orders L.A. to pay Great Basin $1.1 million"

Magazine article: *Audubon*, Sep-Oct 2013, p. 36-41: "Dustbuster: Two hundred miles north of Los Angeles, windswept Owens Lake was the victim of one of the most audacious water grabs in the History of the Modern West. Now it is the site of one of its most innovative restorations—resurrecting a critical pit stop for migrating birds." By Jane Braxton Little

Magazine article: *Sierra Life*, May-June 1987, p. 51-53 [incomplete copy of article]:"An Ill Wind Blowing – An Environmental Report: Is there a correlation between Owens Dry Lake and Respiratory Disease?" by Sandie Pramann. Investigative report article on the "Owens Dry Lake dust and respiratory disease in Owens Valley," caused by the diversion of the Owens Lake's natural water inlets which were diverted by the Los Angeles Department of Water and Power in the early 1900s.

Newspaper clipping: *Los Angeles Times*, 19 Apr 2009, p. A33, A37: "Nature has returned, unexpectedly – Birds flock to the thin sheet of water in Owens Lake that was poured in as dust control" by Louis Sahagun"

Newspaper clipping: Unknown publication [*Inyo Register*?], undated [c. 2014]: "Owens Lake attracting more than birds – First-ever festival in 2015 could be the start of something big"

Newspaper clipping: Unknown publication, undated: "Eastern Sierra History – Owens Lake Steamers" by Dave Babb; concerns steam boats on Owens Lake. Covers Colonel Sherman Stevens, James Brady, Owens Lake Silver-Lead Company, 1872 Lone Pine Earthquake, Cerro Gordo, and the boats *The Bessie Brady* and *Mollie Stevens*

Newspaper clipping: Unknown publication, undated: “Eastern Sierra History – Dry Up Owens Lake – In 1888?” by Dave Babb; details a proposed diversion of Owens River water in 1888.

Newspaper clipping: *Los Angeles Times*, 2 Dec 2009, p. A14: “Owens Lake as solar plant?” by Phil Willon

Newspaper clippings: An assortment of *Los Angeles Times* and *Inyo Register* letters to the editor c. 2012

Newspaper clipping: *Los Angeles Times*, 2 Feb 2010, p. A1, A14: “LA takes shine to another Owens Valley product: sun” by Phil Willon “reporting from Lone Pine”

Newspaper clipping: *Los Angeles Times*, 6 Jul 2010, p. AA: “Owens Lake plan stymied – Testing of solar panels is impeded by wicked wind, corrosive soil, and changes at DWP” by Louis Sahagun and Phil Willon

Newspaper clipping: *Inyo Register*, 3 May 2016, p. 1, 3: “Celebrating public access to an accidental bird habitat – project includes three different sites to visitors can enjoy the area’s nature” by Jon Klusmire

Newspaper clipping: *Inyo Register*, 15 Nov 2014, p. 1: “L.A., Great Basin strike Dry Lake accord” [no article, front page headline only]

Newspaper clipping: *Los Angeles Times*, 16 Nov 2014, p. A17: Editorials – “The Owens Valley dust-up – LA reaches a settlement over how it will control dust blowing off the dry Owens Lake bed” [no credited author]

Newspaper clipping: *Inyo Register*, 28 Jan 2010, p. A4: “Letters to the editor: Ideas on energy and growth” by Robert E. Sprenger, Professor of Chemistry, Emeritus, Big Pine, California

Newspaper clipping: *Los Angeles Times*, 5 Feb 2010, p. A24: “Opinion – Letters – Solar and the Owens” by Robert Siebert (Orange CA), David Madden (Riverside CA), Sally Miller (Lee Vining, Mono County, California)

Newspaper clipping: *Los Angeles Times*, 28 Sep 2006, p. B1, B10: “L.A. Told Again: Fix Owens River – Appeals court upholds order banning use of key aqueduct if officials fail to act. Project could be one of the largest attempted in the U.S.” by Louis Sahagun and Stuart Silverstein

Website printout, www.lorp.info, Lower Owens River Project: Overview and Location maps, dated 5 May 2006

Website printout, Wikipedia article for “Owens Valley,” dated 18 May 2007

Newspaper clipping: *Los Angeles Times*, 8 Jul 2007, p. B1: “River is resurrected – The long-dry Owens now teems with birds and fish” by Louis Sahagun

Newspaper clipping: Unknown publication, hand dated 8 July 2007: "Life Rebounds in Resurrected River" by Louis Sahagun [appears to be reprint of 8 Jul 2007 *LA Times* piece in a different publication]

Newspaper clipping: *Los Angeles Times*, 6 Oct 2013, p. A35: "Sierra river's ripe for rebirth" by Louis Sahagun

Newspaper clipping: *Inyo Register*, 2 Jun 2018, p. 1: "Owens Lake garners International Shorebird designation – Classification does not provide any legally binding protections" by Jon Klusmire

Newspaper clipping: Unknown publication [possibly *Inyo Register*?], hand dated 13 Oct 2007: "'New' river subject of on-ground survey" by Jon Klusmire

Newspaper clipping: *New York Times*, 12 Jan 2008, p. A8: "A Long-Dry California River Gets, and Gives, New Life" by Randal C. Archibold

Newspaper clipping: *Washington Post*, 19 Dec 2006 [incorrectly hand dated 20 Dec 2006]: "Justice Flows Into a Parched California Valley – Los Angeles Begins to Return Water, Which It Diverted Nearly a Century Ago" by John Pomfret

Press release or informational page regarding The Lower Owens River Project, issued by LADWP Bishop Administrative Office, dated Aug 2009; includes map of LORP Area including Aqueduct Intake near Big Pine, Twin Lakes, and Billy Lake

Newspaper clipping: *Inyo Register*, 22 Dec 2011, p. A1: "DWP consultants offer ideas for river O_2 worries – Ecosystem Sciences representatives present findings of 2011 Lower Owens River Project Report" by Mike Gervais

Magazine article: *Mammoth Sierra Magazine*, May-Jun 2010, p. 10-12: "A Rebirth in the Early Stages of Labor – Lower Owens River" by Deb Murphy; original copy

Newspaper clipping: *Los Angeles Times*, 25 Jul 2011, p. AA1, AA5: "Choking the Lower Owens – L.A.'s restoration effort leads to tules clogging 62 miles of river" by Louis Sahagun; includes letter to the editor responses to the articles from *LA Times*, 28 Jul 2011, p. A18.

Magazine article: *Smithsonian* magazine, Oct 2002, p. 105-113: "California Scheming – Los Angeles' insatiable thirst for water, which drained the Owens Valley, has ruined lives, shaped the city's politics, and provoked ongoing controversy" by Mark Wheeler; B&W photocopy of article

Periodical clipping: Unknown periodical [margins states "Profile 2013-14", p. 30-31]: "Lower Owens at a crossroads – Inyo County, LADWP and environmentalists tracking a river reborn" by Deb Murphy

Pamphlet / brochure by LADWP, undated: “Owens Lake Trails – A Public Access, Education and Recreation Project of the LADWP Owens Lake Dust Mitigation Program”

[Content list revised 10 Feb 2026, MS-ICFL]